

AP 4/V.3

United States
Department of
Agriculture
Forest Service
Southern Region



Final Environmental Impact Statement

VEGETATION MANAGEMENT in the Appalachian Mountains

COMMENT LETTERS AND RESPONSES VOLUME III



Management Bulletin RB-MB 35

July 1989

A 13.92:

COMMENT LETTERS AND RESPONSES

This volume contains complete copies of comment letters received about the Draft EIS, and Forest Service responses to them. Comments were received from 583 persons, groups, and agencies. Volume I, chapter VI, discusses these comments and the public involvement process.

Each letter is numbered in the order in which it was received. This number is in the top right corner of the letter. In the letter, substantive comments are numbered in the left margin. Forest Service responses are located next to the letter (on the right half of the page) and are numbered to correspond to specific comments.

Since many comments are similar, responses often refer to another letter where that comment has already been addressed. References to pages of text specify the Draft EIS or the Final EIS. References to sections do not, since these are the same in both versions.

If no response is included for a specific letter number, the comment was a form letter identical to letter number 57, 162, or 562. They are answered only once.

Many comments were very incisive and prompted changes in the Final EIS. As a result, some led us to modify alternative D by reducing the amount of herbicide and the percentage of broadcast application methods used. Others led us to evaluate other alternatives that were in the range of all alternatives. Some led us to strengthen or expand parts of the analysis in chapter IV. Others led to editorial improvements, as in the description of alternatives early in chapter II. Such changes are explicitly mentioned in our responses to the applicable comments.

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**LIST OF DRAFT
EIS COMMENTERS**

This section is an alphabetical list of people and organizations who commented on the Draft EIS.

<u>Name</u>	<u>Letter Number</u>
<u>Businesses</u>	
Agricultural Resources Center, Raleigh, NC	484
Appalachian Power Co., Roanoke, VA	283
Arkansas Land Co., Benham, KY	321
Bowater, Hiwassee Land Company, Calhoun, TN; Etowah, TN	230; 468
Elanco Products Company, Greenfield, IN	456
Entre Computer Center, Asheville, NC	025
Fast Draw Drafting, Columbus, GA	254
General Control Co., Inc., Tucson, AZ	017
Kentucky Utilities Co., Lexington, KY	577
Long Branch Environmental Education Center, Leicester, NC	523
Mead Paper Company, Kingsport, TN	036; 037
C. R. Page, Jr. & Assoc., Inc., Chattanooga, TN	430
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Powell Wholesale Lumber Co., Waynesville, NC	574
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Virginia Power, Richmond, VA	265
Westvaco Corporation, Summerville, SC	395
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<u>Federal Agencies</u>	
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Fish & Wildlife Service, Laurel MD; Cookeville, TN	051; 041
NPS, Appalachian National Scenic Trail, Harpers Ferry, WV;	459
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O'Connor, Walter J.	3
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Orr, Gene	0
Orr, Louise	0
Orr, Mary Lou	0
Orr, Michele	5
Orr, Nolan	1
Orr, Nancy	1
Orr, Norma S.	0
Orr, Thomas E.	2
Orr, Willie Ray	1
Owenby, Dorothy	0
Pace, Don A.	1
Padgett, James R.	0
Parton, Dwayne	0
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Passmore, Ricky	3
Paulick, Diana M.	5
Pearlman, Jon and Aileen	0
Pennington, Roy M.	2
Peterson, Yvonne	1
Pfell, Jay	3
Pharr, Ann L.	3
Phillips, Betty	1
Phillips, Billy R.	1
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Phillips, Linda S.	1
Pielke, R. A.	0
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<u>Organizations</u>	<u>Letter Number</u>
Alabama Conservancy, Anniston, AL; Birmingham, AL	491; 285
Alabama Ornithological Society, Birmingham, AL	491
Appalachian Trail Conference, Harpers Ferry, WV	397
Audubon Society, Atlanta, GA; Birmingham, AL	289; 491
Common Sense Army, Etowah, TN	555
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NC Wildlife Federation, Shelby, NC	267
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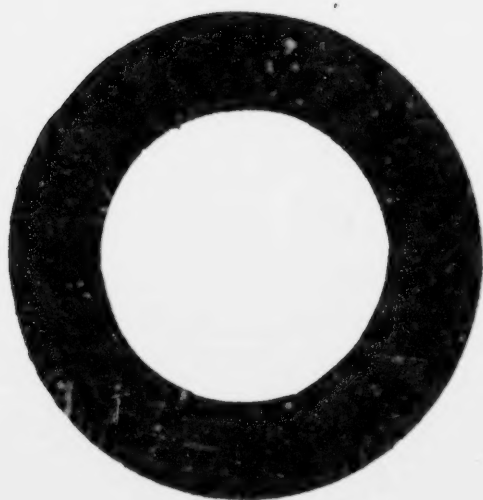
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To whom it may concern,

- 1 With the world in such an environmental mess, why make it worse? Please spray less not more.

Thanks,

Ed Tucker

Response to Comments in Letter No. 1

From: Ed Tucker

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received.

Alternative D projects an increase in herbicide use of 39 percent above present levels (alternative C) and allows limited aerial application on some major power and gas lines. However, potential adverse effects are sharply reduced by mitigations on Draft EIS pages II-58 to II-65. Key mitigations to protect people and the environment require: (1) herbicides to be applied at low rates (a fraction of the label rate), as granules or large droplets in favorable weather to minimize drift; (2) special clothing and procedures to protect workers and the public; and (3) buffers to protect plants, animals, and water quality.

In the Final EIS, alternative D has been modified to project a smaller increase in herbicide use (19 percent above present levels). Aerial application may now occur only on major power transmission lines that are rugged, inaccessible, and uninhabited, and where other tools are not practical; this reduces the amount of aerial application allowed from 900 to 400 acres per year (less than 1/100 of 1 percent of the Appalachian national forests). Finally, the percentage of herbicides that must be applied selectively (directly to individual plants) has been increased and is 90-100 percent in all but roadsides and utility lines. In this alternative, less than 0.6 percent of the Appalachian national forests will be treated with herbicides each year.

Also in the Final EIS, some mitigations have been strengthened to further improve protection of people and the environment. Key ones are: (1) herbicides other than class A (Draft EIS page II-42) may never be used unless approved by the Regional Forester; and (2) buffers for aerial application must be at least 200 horizontal feet wide on each side of trails, roads, and perennial and intermittent streams to provide greater protection in mountain terrain; and (3) all buffers must be clearly marked so pilots and applicators can easily see and avoid them.

Some herbicide use is crucial for sound forest management and precise plant control. Such control is needed to: provide optimum composition of understory and midstory plants for wildlife (including threatened and endangered) species; prevent encroachment of shrubs, vines, and noxious plants on balds, trails, and recreation sites; maintain low-growing plants to ensure safe operation of roads and utility lines; and achieve balanced species composition and vigorous growth conditions needed to maintain good forest health.

Eliminating herbicide use would require more reliance on manual tools such as chain saws and axes. Our records show that, despite training and safety measures, risks of serious accidental injuries are highest with manual tools, and the control they provide is not nearly as effective, requiring costly repeat treatments on many sites. Eliminating herbicide use would also require more reliance on mechanical tools and prescribed fire; those tools provide less precise control than selective herbicide use, and they pose higher risks to water quality from sediment and to air quality from smoke emissions.

12/5/88

Dear Sirs,

1 I am willing to express my disapproval of your proposed use of herbicides or any other chemicals in our forests.

Yours truly,
Roman C. Stanley
President
Asheville
Mushroom Club

MR. ROMAN STANLEY
19 FULLER LANE
ASHEVILLE NC 28805



MADD

Response to Comments in Letter No. 2

From: Roman Stanley

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. Herbicides are proposed to be used only when other methods are less effective or not practical. Mitigation measures (chapter II) are required that minimize adverse risks to the extent possible. Also see response to comments in Letter No. 1.

Rt. 2, Box 105E
 Highlands, NC 28741
 December 5, 1988

Regional Forester, Southern Region
 U. S. Forest Service
 VMT - Room 362 South
 1720 Peachtree Road NW
 Atlanta, Georgia 30367-9102

Subject: Draft EIS, Vegetation Management, Appalachian Mountains

In response to your request about two years ago I submitted comments on your proposed vegetative management in the Appalachian Mountains. Your employee, Gary Sick, didn't like my comments regarding loss of Forest Service credibility. He asked for suggestions as to how you might do a better job. Enclosed is a copy of my reply to Gary Sick, dated 2-23-87.

In response to your current invitation for public comment on the draft Environmental Impact Statement on Vegetation Management in the Appalachians, I submit the following:

1 — The ever-decreasing forestland acreage in the Appalachians, especially government-owned land, should be treated as a national treasure. Forest Service treatment, however, is exploitative mining techniques of forest management: Poison, clearcut, burn. Your engineers rip the forest with roads of excessive widths while your researchers document that most forest erosion and stream siltation is from roads. Your roads are designed to protect engineer staffing and grade levels rather than watershed values. As soon as the timber is hauled out — the trees which had to be clearcut to pay the cost of the road — you gate and lock this access to the public, claiming "resource protection" and lack of road-maintenance funds. These are the type of actions which have destroyed Forest Service credibility.

2 — You now propose to use prescribed fire and herbicides rather than hand labor for vegetation control. You choose fire and poisons over people and the environment. Mechanical and hand labor vegetative management is an opportunity to invest our tax money in human employment rather than in chemical companies or expensive and hazardous use of fire. I recall a poem once used to protest Forest Service killing of hardwood forests in order to grow pines:

You've got the money,
 We've got the time.
 You poison the hardwood,
 We'll burn your pine.

Response to Comments in Letter No. 3

From: James R. Padgett

Comment No.

Response

- 1 The issues of road building and clearcutting are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest.
- 2 Data presented in the EIS shows fire to be the least expensive method available for vegetation management; manual methods to be the least safe for workers; and essentially no difference in employment levels between the use of herbicides and manual methods.

-- The major reason for buying land for national forests in the East was to protect the land from exploitative destruction, namely clearcutting and burning. Now the Forest Service concludes that this type of practice is actually good for the forest, and spraying trees with poisons is even better management. If this is true, then why should the land remain in government ownership? Private ownership can provide this type of forest management better than government bureaucrats, and without having to pay your salaries. Another poem comes to mind:

You've got the goals and quotas,
We've got the votes and voice.
You clearcut, poison, and burn,
We'll expose your ugly choice.

-- Your taxpaid advertisement in TIME, Nov. 27, 1988, states, "When you walk into a National Forest, you really believe you're the first person who's ever been here." The truth is, however, if one walks into many parts of the national forest, other than wilderness or other land protected by law from your engineers and clearcutters, you'll likely be ripped by brush and briars of clearcuts, be dusted with ashes from your burning, and be overcome with fumes of your herbicides.

-- It's time the Forest Service divorced itself from the timber and chemical industries. It's time to renew the place of recreation, wildlife, pure water, and scenic beauty in multiple use management. It's time to replace your engineers with ecologists, your PM experts with botanists, and your timber beasts with foresters having a gut feeling for all the plants and creatures of the woods rather than obsession with computerized output goals of board and cubic-foot volumes.

James R. Padgett

James R. Padgett
Forester, Tree Farmer

cc: WNC Alliance
Congressman Clarke

Reproduced from poor document.



Jane M. Allison
28 Earls Road
Bryson City, North Carolina 28713

December 4, 1988

USDA Forest Service
VMT—Room 362 South
1720 Peachtree Road NW
Atlanta, GA 30367-9102

Gentlemen:

- 1 This letter is written to protest your recently publicized plan to use herbicides and to replace hardwoods with softwoods in the Appalachian forests.

- 2 I believe it is the responsibility of your agency to lead the way in protecting the environment and all that that entails—human, animal and vegetation. There are no proven safe herbicides and until an organic one is developed, none should be used. Only in the last few years have the birds returned after the disastrous use of ~~safe~~DDT.

As for the plan to replace hardwoods with pine—that is nothing short of criminal. You simply don't eliminate hardwoods from one of their best growing areas in the world when they are disappearing in so many other areas. And need I even mention their beauty and the fact that it is the color of the hardwoods, not the pines, that brings tourists to Western NC.

Sincerely,

Jane M. Allison

Response to Comments in Letter No. 4

From: Jane M. Allison

Comment No.

Response

- 1 The issue of cover type selection (hardwood vs. pine) is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.
- 2 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Route 1 Box 250
Staunton, Va. 24401

Dec 6, 1988

USDA Forest Service
1720 Peachtree Rd NW.
Atlanta, Georgia 30387

Expletive deleted

I have your ^{Expletive deleted}
1 found draft EIS on vegetation management
in the Appalachians vol II.

This is patently an effort to put
a scientific gloss on an effort to poison
our finest watersheds. Don't you realize
that the American people don't want your
poisons in their air, soil & water? We told
you that before but you wouldn't listen.
Show up here with them & we'll be ready for you!

Sincerely
Bob Muehl
RF Muehl

Response to Comments in Letter No. 5

From: Bob Mueller

Comment No.

Response

1 Comment noted.

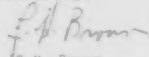
USDA, Forest Service
VMT, Room 382 South
1720 Peachtree Rd., N.W.
Atlanta, GA 30367-9102

7 December 88

Dear Sirs;

1 In the light of the new awareness of environmental concerns and
the fact that an estimated fifty percent of this nation's drinking water
is contaminated, the proposal to employ ever more herbicides in the
national forests seems to fly in the face of reason. Pesticides do find
their way into the ground water and aquifers; run-off into streams and
rivers does occur. I sincerely hope that the Forest Service will
2 reconsider this plan and consider something entirely free of pesticide
usage, such as, say, proposing to Congress a CCC type corp of unemployed
young people to brush out the balds and power lines and etc.

Sincerely,



F.K. Brown
349 Lyday Creek Rd.
Pisgah Forest, N.C. 28768

Response to Comments in Letter No. 6

From: F. K. Brown

Comment No.

Response

- 1 Potential herbicide entry to surface and ground water depends on how much herbicide is applied, how often it is applied on any given area, and how carefully it is applied. In the preferred alternative, herbicides must be applied at the lowest effective rate (Draft EIS page II-58), which in all cases is a fraction of the label rate allowed by EPA and typically used in agriculture. Herbicide treatments will be 90-100 percent selective (applied directly to individual plants) in all areas except roadsides and utility lines; selective treatments use only 30-60 percent as much herbicide as broadcast treatments which are almost always used in agriculture. Instead of 1-3 times per year as in agriculture, herbicides used on the national forests are applied only once or twice every 50-120 years to establish and release new forest stands, and only once every 3-4 years in other general forest areas; these cycles far exceed the toxic life of the herbicides allowed in the preferred alternative. Considering these facts together, the amount of herbicide applied over time in any one of our general forest areas will be 100 to 1,000 times LESS than that applied in agriculture where surface and ground water problems have sometimes occurred.

In addition, mitigations require herbicides to be applied as granules or large droplets in favorable weather, using buffers to protect surface and ground water (Draft EIS pages II-62 and II-64). These precautions further reduce risks of water contamination; herbicide concentrations should never exceed a fraction of EPA's strictest drinking water standard even in small perennial streams and shallow ground water, and should be negligible in rivers and aquifers (Draft EIS pages IV-99 to IV-106).

- 2 Reinstating the CCC is outside the scope of this EIS. It must be noted that emphasis on manual methods would tend to increase the number of employee accidents (table IV-8 in the Draft EIS) at a disproportionately high rate.

1 PLEASE do NOT CONSIDER

Spraying dangerous chemicals on our U.S. Forest Service lands. God values the wildlife, the people, the future - let Him take care of the forests not politics and people who do not look into the future. The long term damage would be irreversible -

Please listen to this humble note -
BARBARA DEIBERT

Response to Comments in Letter No. 2

From: Barbara Delbert

Comment No.

Response

- 1 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

157 Poverty Branch Road
Barnesville, NC 28709

December 5, 1988

After December 15, 1988

with: 817 Quanda Ave

De Bells, IL 60015

U. S. D. A. Forest Service
VMT Room
389 South
1720 Peachtree Road N.W.
Atlanta, GA 30367-9102

Dear U. S. D. A. Forest Service:

My wife and I are 60 years old. We own our living in the Chicago area, but spend five months of the year in Barnesville, NC. Our principal interest each day, from about 12 noon 'til dark is taking the cows in our up Mountain Creek.

On our ridge, like government land, which we have regularly hunted for four years, also this year we discovered that the deer on the ridge was sprayed last April with a herbicide. We don't like it that our animals, because we have no reason to believe that these herbicides are not dangerous (after 1950, the U.S. Government has been caught on the spot in about the use of poisons). Still, I thought it only right to express what in these economically worthless, but especially beautiful mountains could justify the spraying of these animals? I'm willing to accept my sharing, as is my wife, if you can give a good reason. I could, for the life of me, stand if any, sleep - someone in the Service prepared to risk the health of people, not to mention world life, to prove some economically worthless point about the desirability of humans, with life, and trees over 30 tall, if the understory is poisoned. My God! I am the understory!

E. W. VAN STEENBURGH

Response to Comments in Letter No. B

From: E. W. Van Steenburg

Comment No.

Response

- 1 Your concern about herbicides has been included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

As you decrease herbicide treated acres and increase manual/mechanical control, you must decrease health risk to humans and other animal species. What you are doing is saving economic resources while

Why? passing on the question of risk to workers who apply the stuff and the public who must contend with it long after your stated objectives are achieved. Manual weeding is totally unreliable. They don't know the effects of chemical control of vegetation. However,

Comments on Alternatives: a picture is emerging which I think calls for putting the brake on the use of herbicides, even if vegetation management ideals are seriously compromised. The fact is that the

Why? Retained D. Dependent objectives & career oriented personnel who are biased toward their objectives and willing to take the risk. Unfortunately, when the

Other: long term negative effects of their work start coming in, they are quick to find way to cover up. I'm opposed to use of non-biologic, i.e. chemical controls

Why? except in very extreme situations. The fact is that just. Animals perform in the Blue Ridge Mountains have increased in making huge tracks of wilderness off-limits to informed people who hold out for the wide open spaces of that. & the "no". Stop it.

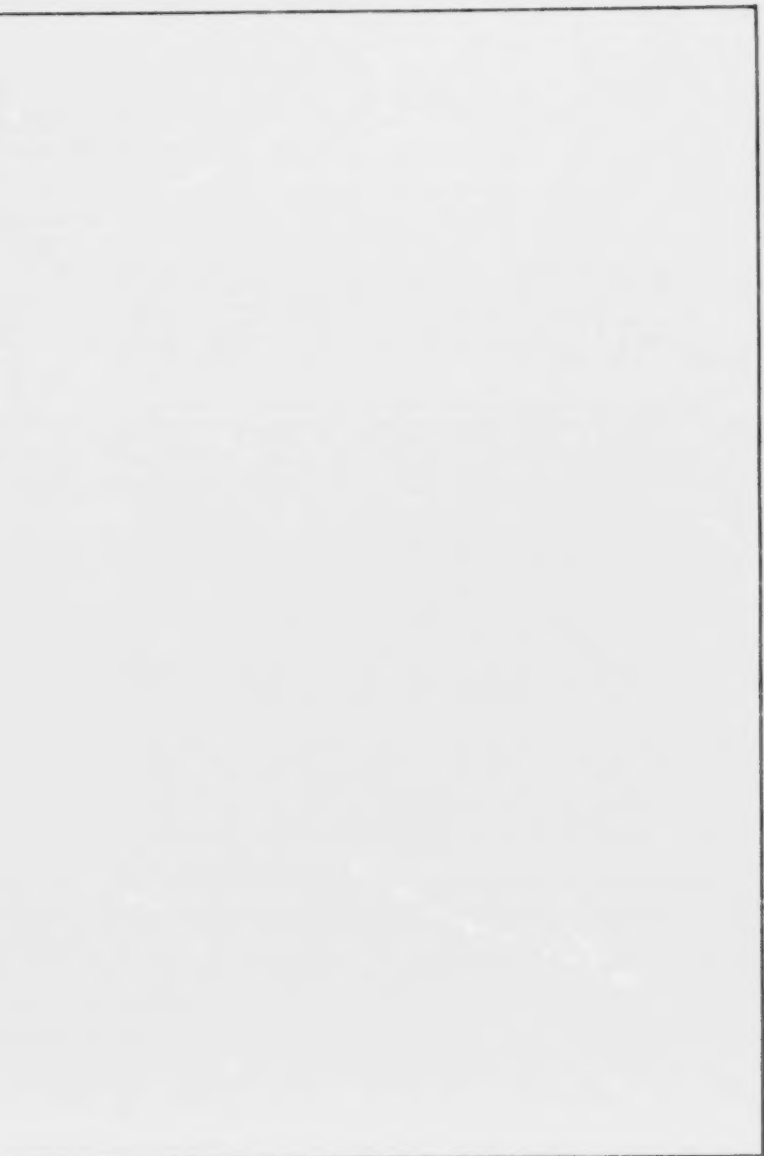
(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

E. W. Van Vleetburg
 Name First MI Last (Organization)
 511 F. H. H. H.
 Signal
 10-10-10 J. L. G. 1115
 City State Zip Code

Tear at perforation

Reproduced from poor document.



12/9

Dear USDA Forest Service Person,

I read about the proposed spray program in Forest Service cared for land. I live with my children in the area of Pisgah Forest in South Toe Valley. I am opposed to any spraying of the land in the care of the Forest Service for any reason. The effects of sprays on humans, as well as other animals and on plants, is always underestimated. I know this all too well, having picked apples and worked in orchards for many years. Even though it is not yet officially recognized by the government, all sorts of sprays are known to cause miscarriages, birth defects and lower the functioning capabilities of the immune system,

Response to Comments in Letter No. 9

From: Loy McWhirter

Comment No.

Response

- 1 Your concern about herbicides has been included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

and are indicated in chronic and terminal diseases.

I think it's time we as a species wised up. it's almost too late already. We need to protect our children and the Earth that sustains us from the poisons at our disposal. It's time to stop. The Forest Service, being in charge of what little is left of the forested ~~the~~ lands, should set the example for the true care of the land.

Sincerely,

LOY MCWHIRTER

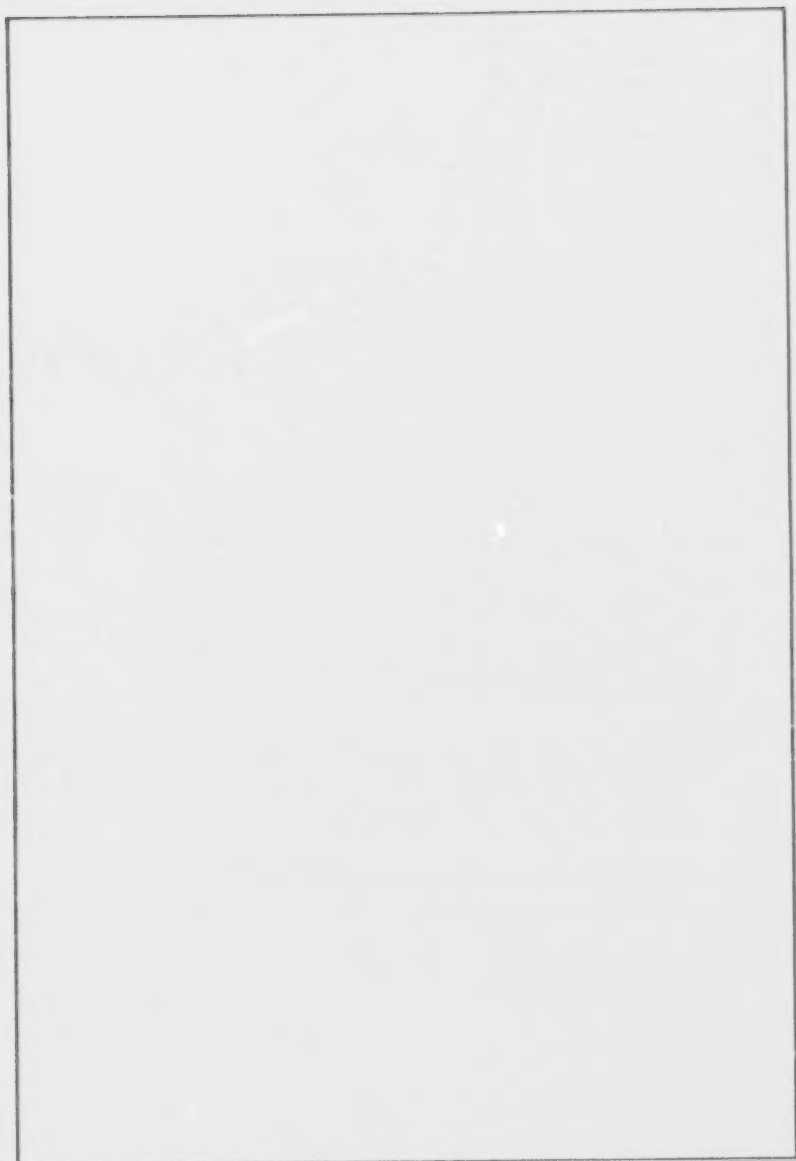
Box 340

ROUTE 5

BURNSVILLE, NORTH CAROLINA

28714

675-5989



December 7, 1988

USDA Forest Service
VMT-Room 362 South
1720 Peachtree Road, NW
Atlanta, GA 30367-9102

Dear Sir:

I am writing this letter to express my concern regarding the use of herbicides in the Pisgah National Forest. So far, you have sprayed at least 24,600 acres with this poisonous chemical, and still plan to cover another 34,259 acres. It has always been my understanding that the Forest Service had a very responsible position in our forest ecosystem, and that position is to protect the forest, not disrupt or destroy the balance of the forest ecosystem.

1 As you are well aware, herbicides have a devastating effect on our forest ecosystem. It not only damages hardwood trees, plants and animal life, but these poisonous chemicals also cause cancer, air pollution and soil erosion.

2 A more effective way to accomplish your goal, and at the same time, reduce the unemployment rate, would be to utilize our most valuable assets, human resources to go into the forest with the use of chain saws and whatever additional tools necessary to perform the services needed by the Forest Service as opposed to the use of these poisonous herbicides.

Thanking you in advance for your cooperation and consideration regarding this matter.

Respectfully,

Hattie Roland-Parrish

Hattie Roland-Parrish

Response to Comments in Letter No. 10

From: Hattie Rowland-Parrish

Comment No.	Response
1	Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
2	Data presented in the EIS indicate that workers are at highest risk using manual vegetation management methods (table IV-8 in the Draft EIS). Also indicated is the fact that there is no significant difference in employment between manual and herbicidal vegetation management.

DEC 12, 1988

DEAR SIRs ,

1

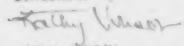
THIS LETTER IS TO EXPRESS MY STRONG CONCERN REGARDING YOUR
PLAN TO INCREASE SPRAYING HERBICIDES ON NATIONAL FOREST LANDS....

CONSIDERING THE STATE OF OUR ALREADY DELICATE AND
ENDANGERED FOREST LAND I CANNOT BELIEVE ANY ONE WITH THE SMALLEST
SHRED OF CONCERN FOR OUR EARTH WOULD EVEN CONSIDER SUCH A PROPOSAL
SERIOUSLY.

THE TREES ARE ALREADY DYING FROM TOXIC WASTES
FALLING FROM THE AIR SO HOW CAN YOU EVEN CONSIDER PUTTING MORE DIRECTLY
ON TO THE LAND??????????

PLEAS RECONSIDER THIS PLAN AND LISTEN TO THE PEOPLE
WITH CONCERN IN THEIR HEARTS FOR OUR FORESTS, ANIMAL LIFE AND
MANKIND.....

SINCERELY


KATHY VINSON

52 RICEVILLE RD D-302
ASHEVILLE, NC 28805

Response to Comments in Letter No. 11

From: Kathy Vinson

Comment No.

Response

- 1 Your concern about herbicides has been included in the content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

Why?

1

Other: How Much Money did it Cost in "American"
Dollars to make this study and print this
Book? Is there going to be a Volume II?
why? why Did you send me Two Copies?

Please answer those questions and I'll give you
my comments.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

KENNETH L. DAVIS
Name First MI Last (Organization)
PO Box 733
Street
Franklin NC 28734
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 12

From: Kenneth L. Davis

Comment No.

Response

1 Comment noted.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I support Alternative B - The Analysis was very well done - seems quite thorough.

Why?

Comments on Alternatives: Support Alternative B

1 Why? Aerial spraying of herbicides is of great concern because wildlife will be greatly affected. All their food and drinking water will be contaminated (even the birds say it in small doses) as well as their bodies. I don't believe they will all run for cover. They won't know to do that just because they hear a helicopter.

2 Why? I feel herbicide spraying must be selective and done manually only when essential. If you say the quantity is not harmful to the environment, why is it harmful to the birds? (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop:

Animals in Laboratories

Unseen
They Suffer
Unheard
They Cry
In Anguish
They Linger
In Loneliness
They Die



← To

People for the Ethical Treatment of Animals

SUSAN H. WIEDMAN

Name: First MI Last (Organization)

2512B Pleasant Rd

Street Charlottesville, VA 22903

City State Zip Code

Response to Comments in Letter No. 13

From: Susan H. Wiedman

Comment No.	Response
1	Buffer strips required along perennial and intermittent streams when applying herbicides to soil protect the streams from pollution (pages IV-96-97 of the Draft EIS). In alternative Modified D, preferred alternative in the Final EIS, aerial application is allowed only on 400 acres annually within the 5.2 million acres and then only with stringent criteria described in chapter II mitigation measures. See response to comments in Letter No. 1. Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).
2	Risk to manual herbicide applicators results from the amount of exposure to the workers during application. Exposure results from several factors including (but not limited to) an environmentally safe amount of herbicide sprayed on vegetation or soil. Amount carried, possible spill and skin contamination, and amount of time exposed on a daily and annual basis are shown in the risk assessment (appendix A).

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Done in a very unbiased manner taking all objectives in consideration.

Why?

Comments on Alternatives:

1 In my opinion alternative "F" is the best way, with "B" being the next best.

2 Why? I'm not totally against herbicides but I do know they are very dangerous, especially over the years. I do not think the benefits outweigh the adverse effects.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Glenn N. Johnson
Name: First MI Last (Organization)
944 Durham Rd.
Street
Wake Forest NC 27587
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 14

From: Glen M. Johnson

Comment No.	Response
1	Your preference for alternative F was included in the content analysis of all comments received. See response to comments in Letter No. 177, Comment No. 2.
2	Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Marlin H. Bruner,
220 Pendleton Rd.,
Clemson, S.C. 29631

Comments on Vegetation Management in the Appalachian
Mountains

As a retired forester in his eighties, and with knowledge of the Appalachian Mountains, I offer high compliments to the EIS report, concerning vegetative management, that was prepared by the U.S. Forest Service.

This well-drafted report explains suggested methods for dealing with, and protecting, the environment. And it also provides for the economic well-being of the region thru the wise-use of its natural resources. (There are 5.2 million acres within the 10 national forests and their example of sound management will have a significant influence upon the entire region.)

1

The draft proposes measures to harmonize, as a working group, all the interwoven elements of multiple-use: timber, recreation, endangered species, wildlife, air, soil and water. And despite the fact that, recreation-wise, the Appalachians are gaining a more permanent and also seasonal population, the vegetation treatments proposed should meet with general approval by the national forest neighbors--permanent and temporary.

The draft describes 5 vegetation management methods. Included are 8 alternatives that set-forth single and combinations of the 5. Alternative D, which lists fire, herbicides

(more)

Response to Comments in Letter No. 15

From: Marlin Bruner

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analyses well done and useful.

Reproduced from poor document.

2--Appalachian Mountains

and manual use is stated as the preferred ^{method} method. This is a sound combination.

The use of fire, as proposed in Alternative D, is a wise choice. It is relatively inexpensive and is effective. It reduces the fire hazard--especially important to nearby residents--benefits wildlife and prepares the site for natural and artificial regeneration.

Alternative D also combines herbicides with prescribed burning. Such union, when combined with mechanical, manual and biological methods, as local condition might require, offers an inexpensive and effective vegetation management system.

Neighbors of the 10 national forests within the Appalachians should be encouraged to become familiar with this EIS draft. I feel that they would be favorably impressed.

*

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← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

This is a most comprehensive, and helpful, scientific study of vegetative management for the Appalachian Mountains.

Why?

It takes the biological and geophysical factors into consideration, and allows adequate provisions for maintaining a balance between the economic and environmental requirements of the region.

Comments on Alternatives:

Agreement is met (I agree) with Alternate D, as described in Volume I, as a vegetative management method

Why?

This is a wise prescription. It follows accepted forestry practices; yet in so doing the environmental elements are protected as much as possible.

Other: The proposals and conclusions of Volume I are fully supported by the research appendices of Volume II.

Why?

Voluminous research data and studies are presented. The data deal with the interaction of prescribed burning, herbicides, human activity and others upon mankind, soil, air and water.

(See P 2)

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Marlin M. Bruner Ret. Clemson Univ.

Name: First MI Last (Organization)

Street 220 Pendleton Rd.,

City State Zip Code
Clemson, S.C. 29631

← Tear at perforation

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RESPONSE FORM P 2

This research is translated into the over-all effect of these practices upon threatened and endangered species--plant and animal. Over 330 plant species are listed.

(There is an interesting documentary on the effect of pest fires on the Appalachians by David Van Lear. And also one dealing with endangered species.)

Both volumes would be valuable library references, especially for colleges and universities.

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Outward Bound.

North Carolina
Outward Bound School
121 North Sterling Street
Morganton, NC 28655-3443
Telephone (704) 437-6112



February 2, 1989

Mr. Steve McCorquodale, Team Leader
USDA Forest Service
VMT Room 382 South
1720 Peachtree Rd. NW
Atlanta, GA 30367-9102

Dear USFS:

I feel compelled to comment in response to the EIS re: vegetation management plan for the national forests of the Southern Appalachians. The proposed policy of increased use of herbicidal spraying is simply unacceptable.

- 1 The North Carolina Outward Bound School is extremely concerned that the levels of herbicidal spraying might be expanded. We feel that more information must be known about the long-term effects this selective spraying might have on all living communities in the forest as well as any adverse impact these poisons may have on ground water and soil.

- 2 We must ask that the Forest Service be responsive to public opinion in this matter. Manual methods of vegetation control are known to be cheaper, safer for both humans and the environment, will get the job done, provide much needed employment opportunities, and it will be what the people have asked for.

Our program brings people from all walks of life into the forests on a journey of self-discovery and in an attempt to instill in them an ethic of good citizenship and earth stewardship. It is becoming increasingly difficult to inculcate these values when an abundance of graphic evidence demonstrates that these ideals are being compromised daily in current forest management practice.

We ask that the spraying policy be reconsidered and replaced by manual and mechanical methods.

Sincerely,

Mr. Lee Reading
Development Director

Response to Comments in Letter No. 16

From: Lee Reading

Comment No.

Response

- 1 Data in the EIS supports the position that 8 of the 11 evaluated herbicides, properly applied, can be used with minimal risk. This document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data itself supports the position that herbicides can be used with minimal risk of short- or long-term effects, including any potential effects on soil and ground water, as long as mitigation measures (pages II-44 to II-66 of the Draft EIS) are enforced as we require. Public concerns have been taken seriously and are reflected in the formulation of alternatives.
- 2 Table IV-18 shows costs per acre of the various treatments. Data in that table shows that manual vegetation management is not always cheaper. Data in table IV-8 indicates that manual vegetation management activities have higher accident rates than the herbicide use program. And, finally, regarding increased employment, please see response to comments in Letter No. 57, Comment No. 3.

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Outward Bound.

North Carolina
Outward Bound School
121 North Sterling Street
Morganton, NC 28655-3443
Telephone (704) 437-6112



December 13, 1985

USDA Forest Service
VMT Room 382 South
1720 Peachtree Rd. NW
Atlanta, GA 30367-9102

Dear USFS:

I am writing in response to the proposed policy of increased use of herbicidal spraying on federal lands. The North Carolina Outward Bound School is extremely concerned that current policy might be expanded. We feel that more information must be known about the long-term effects this selective spraying might have on all living communities in the forest as well as any adverse impact these poisons may have on ground water and soil.

We must ask that the Forest Service live up to the responsibility entrusted to you by the American people to be stewards of our woodlands, to care and protect these vital natural resources for today's enjoyment and for future generations to enjoy. This mandate is simply incompatible with the use of herbicides in our opinion.

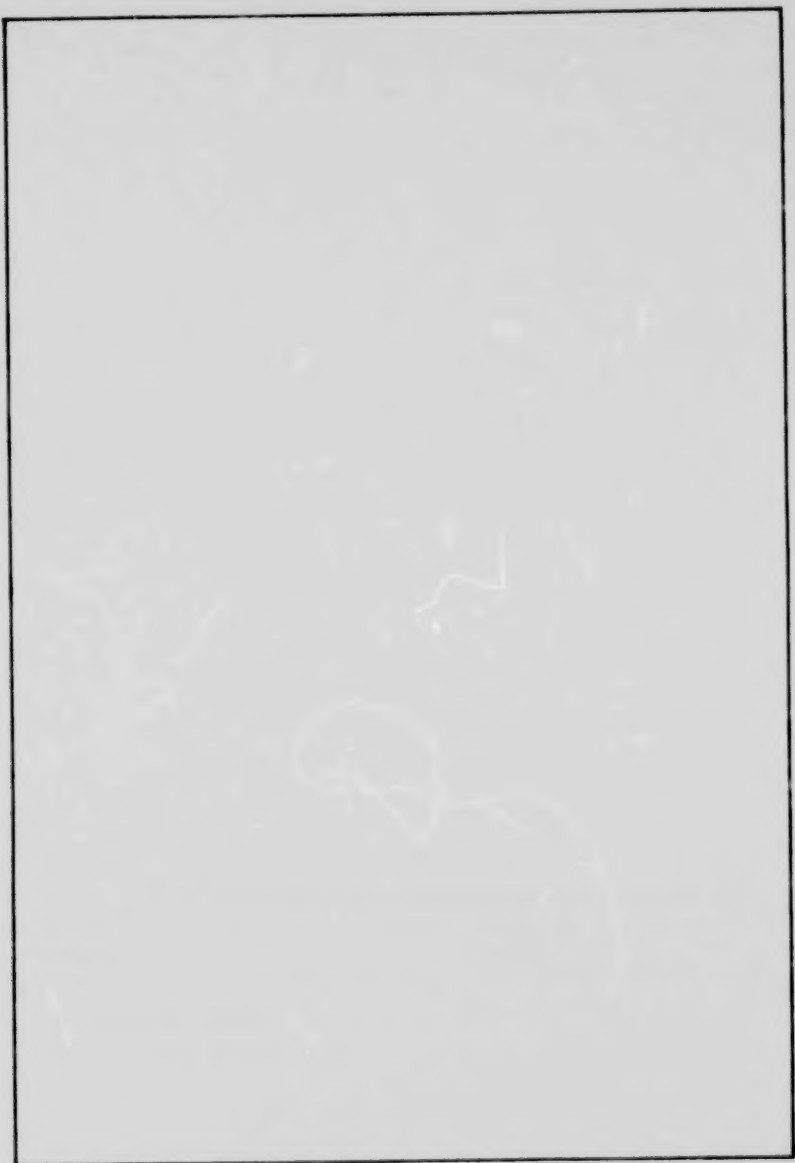
Our program, and many other adaptive outdoor education programs around the country, brings people from all walks of life into the forests on a journey of self-discovery and in an attempt to instill in them an ethic of good citizenship and earth stewardship. It is becoming increasingly difficult to inculcate these values when an abundance of graphic evidence demonstrates that these ideals are being compromised daily in current forest management practice.

We ask that the spraying policy be reconsidered and appropriately modified.

Sincerely,

Mr. Lee Reading
Development Director

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1

Just excellent, and a completely thorough analysis.

Why?

Because of the detail on each given subject and Region.

Comments on Alternatives:

Particularly on the Reproductive Success. Excellent reports.

Why?

Other:

Why?

Effects of herbicides — which are definitely not our General Control Co. products. Our products are very safe for all animal life except for the insect problem.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

General Control Company Inc.
 Name First MI Last (Organization)
 3334 East Pennsylvania St.
 Street
 Tucson, Arizona 85714
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 17

From: Jeanette M. O'Malley

Comment No.

Response

- | Comment No. | Response |
|-------------|---|
| 1 | The interdisciplinary team is pleased that you found the analyses well done and useful. |



GENERAL CONTROL CO., INC.

3334 E. Pennsylvania St. • Tucson, AZ 85714 • (602) 889-6376 • Fax (602) 294-5367

December 12, 1988

Mr. Steve McCorguodale, Team Leader
Vegetation Management NIS Team
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

Dear Sir,

Thank you for a great report on Environment and Vegetation Management, it is very thorough in every respect. However, I feel I must clarify the purpose of our business here at General Control Co., Inc.

We are a repackaging firm that formulates agricultural/industrial herbicides and insecticides in quantities suitable for the average home owner. Although our main products have continental registration through EPA, and are also registered through individual state government agencies, we are currently distributing only in Arizona. Therefore, I do not feel we are in a position to make as qualified a review as many of the other organizations, etc. that are noted in Chapter VI.

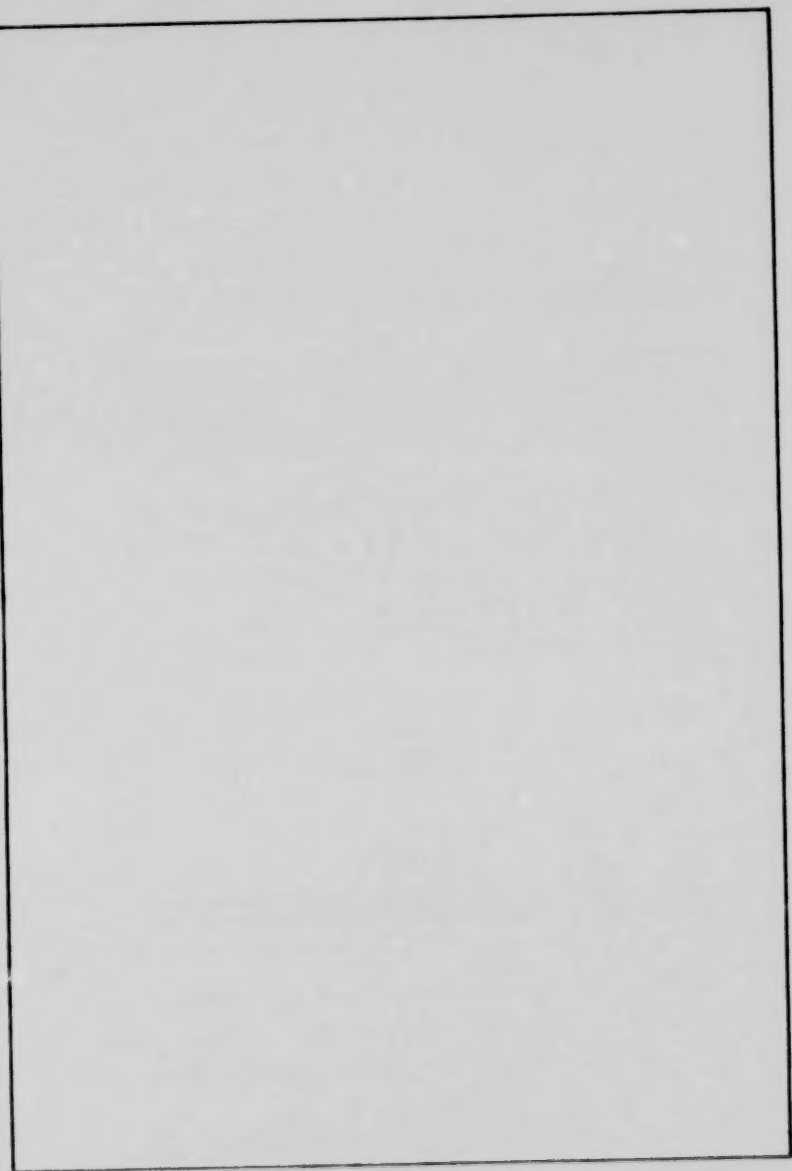
I congratulate you though, on your two excellent volumes. I am also enclosing brochures on our products. The green booklet is the first printed, and gives more detailed data on the products that Mr. O'Malley, my late husband, formulated.

I would also like to note that the Arizona Nature Conservancy endorses our products for use by the Nature Conservancy of America because of their safety around pets and wildlife. If your team should like samples please let us know.

Cordially,

Jeannette M. O'Malley
Mrs. Jeannette M. O'Malley
President

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

Why?

Other: I suggest Alternative D as preferred by the Forest Service, assuming that all herbicides are carefully evaluated for short and long term effects as was found with the use of DDT. The panel of herbicides appear to be excellent. I have reviewed Alternatives I & II - a lot of information to digest.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

THOMAS L. HODGES, JR.
 Name First MI Last (Organization)
 P.O. Box 43
 Street
 City State Zip Code
 Athensville, GA 30523

← Tear at perforation

Response to Comments in Letter No. 18

From: Thomas L. Hodges, Jr.

Comment No.

Response

-
- | | |
|---|---|
| 1 | Your preference for alternative D was included in the content analysis of all comments received. See also response to comments in Letter No. 1. |
|---|---|

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50 Palmer Drive
 Franklin, N.C. 28734
 13 Dec. 1985

U. S. DA. Forest Service OMT
 OMT Room 362 South
 1720 Peachtree Rd. N.W.
 Atlanta, GA. 30367

Dear Sir:

1 I disapprove of the use
 of chemical pesticides in
 the Kanawha and Pisgah
 National Forest.

Why does Macon County and
 Cherokee have more Cancer
 Deaths than any other in
 the entire U.S. A mountain
 area - clean air (little
 industry less pollution) etc.

Response to Comments in Letter No. 19

From: Dorothy Cox

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. Also see response to comments in Letter No. 1.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Is it caused by chemical
herbicides??

Why are the honeyeater
blossoms which drop
seedlings to the ground
not growing? Yes, I
believe I read they don't
when they fall on a stump.

Sincerely

Nanathy Cox

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THE UNIVERSITY OF TENNESSEE
KNOXVILLE



December 7, 1988

J.E. Alcock, Regional Forester
USDA Forest Service
1720 Peachtree Road, NW
Atlanta, GA 30367

College of
Liberal Arts
Graduate Program
in Ecology

Dear Mr. Alcock:

1

In comment to R8MR24 (VMAH 1): I favor Alternate E to D. The long term, perhaps irreversible over use of herbicides by untrained (regardless of "certification") contract and seasonal workers overwhelms any possible dollar savings in any one budget period. Alternate E offers the least possible, still effective management option and a more realistic future plan for cyclic continuation than expensive or perhaps-to-be-found-hazardous-as-detection-instrument-sophistication-and-portability-improve chemical additives to the environmental atmosphere.

2

Alternate E is a promoter of tree species and occasions low erosion. Manual tool use may increase minor accidents but causes very few threats to regional human and other metabolisms, nor do such tools bring about plane crashes and semi-tanker spills. I didn't find the N for the basis "significantly increases risk to worker safety", but perhaps it is there, along with tests of significance. Trail and recreation maintenance is twice as dangerous as site prep. or pres. burn (T.IV - 7,8).

3

Any one small site/stand must be held susceptible to any rational, reasonable treatment for health, safety, economic and multiple other valid reasons. Except for immediate threats to human health and human life however, there are very few dire emergencies in forest vegetation management, and such drastic needs are few.

4

The Forest Service is, rightly or wrongly, charged with a societal image responsibility. Payment in-lieu to school districts is not very visible in the largely illiterate rural south. Jobs (now economic minority jobs) for manual vegetation management, which pay more than rural textile factories are visible, needed, and may reduce the incidences of recreational arson now treated as a regional competitive sport in some locales.

5

Another note: In Table III - 8, Class One Areas, include integral acreage per unit (continuous or say if not continuous). The size of

Response to Comments in Letter No. 20

From: Clifford Amundsen

Comment No.

Response

- 1 Your preference for alternative E was included in the content analysis of all comments received. Also see response to comments in Letter No. 281, Comment No. 7.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Please review the analysis of accidents. We do not allow either fixed wing aircraft (planes) nor do we allow semi-tankers of herbicide.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

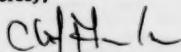
- 3 We agree. Hence mitigation number 1 on page II-44 (Draft EIS) which requires site-specific analysis for any project.

- 4 Please see response to comments in Letter No. 57, Comment No. 3.

- 5 Class I areas are only those wildernesses and national parks over 5,000 acres in size that were established before August 1977 and are mandated for special air quality protection. As stated on Draft EIS page III-17, there are over 745,000 acres of national forest wilderness in the Appalachians, with individual wildernesses ranging in size from 2,450 acres to 37,100 acres. The Class I wilderness areas in table III-B of the Draft EIS make up only a fraction of the 745,000 acre total.

the range area for many population genomes is now recognized as important.

Sincerely,

A handwritten signature in dark ink, appearing to read 'CCA/1', is written over the typed name.

Clifford C. Amundsen
Associate Professor
Graduate Program in Ecology

CCA/cd

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 You have done
an excellent scientific analysis,
Steve and the EIS Team a job
Why? well done.

Comments on Alternatives:

Preferred alternative D
has the best balance, but would like
more. Aerial application of herbicides
especially for managing utility corridors.
Why? Be Her. These mechanical methods - safety
to workers. Per acre costs are less than
mechanical methods, Environmental Correct.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Richard A. Gordon, Jr., President
Public Awareness Committee, Inc.
Name: First MR Last (Organization)
1145 No. 59th Place
Street
Font Smith AR 72904
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 21

From: Richard Gordon, Jr.

Comment No.

Response

- | Comment No. | Response |
|-------------|--|
| 1 | The interdisciplinary team is pleased you found the analyses well done and useful. |

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

1 Comments on Alternatives: Prefer Alternative E to D. Should not increase use of herbicides, & I oppose aerial applications due to their greater potential for mishap & misapplication. E also provides more employment by its greater use of manual/mechanical methods, while providing for vegetation management.

2 Why? Concern for water contamination both inside & beyond managed areas.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Cheryl P. Childress
 Name: First MI Last (Organization)
 Box 2873
 Street
 Richmond VA 24001
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 22

From: Cheryl Childress

Comment No.

Response

- 1 The commenter's preference for alternative E was included in the content analysis of all comments received. Also see response to comments in Letter No. 291, Comment No. 7.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. While alternative E is shown to have "...high..." employment opportunity (page II-81, Draft EIS), this must be read within the context of the comparative nature of the analysis. In fact, the analysis presented suggests that variation in employment among alternatives C, D, E, F, and G is in the maximum range of no more than 2 jobs (up or down from present) per State.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Mitigation measures require low application rates (number 5 on page II-58 of the Draft EIS) and buffers along lakes, streams, wetlands, and water sources (numbers 28 through 33 on pages II-64 and II-65 of the Draft EIS) based on Risk Assessment models (appendix A, pages 4-24-61) and many field studies (appendix C). These data suggest that, using nozzles producing large droplets (number 27 on page II-64 of the Draft EIS), buffers of 100 feet (aerial) and 30 feet (ground) should not produce peak herbicide concentrations in streams from drift or runoff that exceed 0.050 ppm. This value is half of EPA's strictest drinking water standard and poses minimal risk to aquatic plants and animals.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I feel very comfortable

1 With your analysis. You are trained professionals and I am sure you are covering "all the bases".

Why?

→ you must, you have more ground filling you in different directions than I am on a dogs back.

Comments on Alternatives:

I believe Alternative D is the best.

Why? IT IS EXACTLY WHAT I WANT. MAJOR PINE (CONIFER) TREES. IF THERE WERE A MORE COST EFFECTIVE WAY TO GROW CONIFERS WOULD RATHER THAN

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Bob		Pionz	
Name	First	Last	(Organization)
227 CARLETON CIRCLE			
Street			
SUNSHINE IN		37663	
City	State	Zip Code	

← Tear at perforation

Response to Comments in Letter No. 23

From: Bob Ploetz

Comment No.

Response

- | | |
|---|---|
| 1 | The interdisciplinary team is pleased that you found the analysis well done and useful. |
|---|---|

12/12/88

Dear Forest Service,

Let's get real! We, of the Western North Carolina region are NOT ready for chemical defoliants (herbicides) in our Bio-sphere. I understand the practical side of their use because I have an AS in Horticulture and know the break down theory of their chemical components. What I do not understand is why the USDA wants to support the

1 Manufacturers of these products. In this area, employment to jobless or prison related cases is needed. I support the aspect of creating jobs but not making businesses that have patents or surplus of product any money.

Why has the current administration supported

2 big business so much and not supported the people for the people. I would rather the budget cuts to come from higher up and not the lower levels. Just ask Congress why they think they deserve a raise to the 6 figure level when minimum wage does not get raised above \$3.35 an hour.

The supposedly harmless chemicals that when

3 they break down are safe will still have environmental impact. They will still impact insect and birds populations, may damage soils that will erode, and will be harmful to the ones applying the chemical.

(over)

Response to Comments in Letter No. 24

From: David Nutt

Comment No.

Response

- 1 See response to comments in Letter No. 22, Comment No. 1, as it relates to employment potential.
- 2 Administration policy relative to budget and big business is beyond the scope of this EIS. Scientific analysis was employed in determining the preferred alternative.
- 3 Your concern about herbicides has been included in the content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

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I know that you do not expect any positive letters addressing this issue. And I would suppose there are many lazy environmentalists that will not write but this issue is not for the US Government but for the people in the region to decide. Same as with the Nuclear Waste disposal site that was discussed with the D.O.E. — I want the record to show that David C Nutt states that he strongly opposes Federal Gov. intervention in regional issues to curtail the deamite Bureaucratic Government Debt that the general population must pay for.

DO NOT SPRAY WNC with
Herbicides! We don't want it.

Sincerely,
David C Nutt

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•

12/15/88

Dear Forest Service,

- We the people at Etna Computer Center in Asheville
 1 would like to go on record as opposing the proposed spraying
 of herbicides on right of ways and areas to control the
 growth of naturally occurring plant material. We feel that the
 US Government is supporting big business by buying the
 materials used as well as cutting employment controlling these
 areas. Also our larger concern is the destruction of insects,
 birds and other animals that may be exposed to these
 chemicals. We feel that there are better solutions and
 the people of the region should be allowed to develop their own
 efforts to control plant growth on right of ways. Please
do not carry out this project without careful consideration
 of all the elements.

Barbara Q. Madell

1. MOST EMPHATICALLY
OPPOSED TO SPRAYING 1/8.

2. Jamie D. Wough 9.

3. Ledy Hyatt 10.

4. Kenneth E. Bell 11.

5. Rhonda White 12.

6. Tammy Singleton 13.

7. Peter Davidson,
(parent malinced) 14.

Sincerely,

15. Betty Huff

16. Renee Chandler

17. R. Nease Root

18. Paul R. Griffin

19. David M. Welch

20. Jeffery L. Bridger

21. David Hunt

Response to Comments in Letter No. 25

From: Entre Computer Center

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

See also responses to comments in Letter No. 22, Comment No. 1, and Letter No. 57, Comment No. 3, for employment information.

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Franklin N.C.
185 Olive Hill Rd
Dec. 16, 1988

USDA Forest Service
Atlanta Ga 30367

Dear Sir or Madams,

I want to voice my
protest against prescribed
burning and use of chemical
herbicides on forest lands.
We are farmers and have
woodlands bordering
forest service lands in
Nantahala Natl. Forest in
Gaston Co. near Franklin
The area I'm speaking of is
the Carson Cove tract.
The Forest Service has already
clear cut and burned apart
of two tracts there. We
the people here think it is

response to Comments in Letter No. 26

from: Vera Rogers

Comment No.	Response
1	Your concern about herbicides and prescribed fire has been included in the content analysis of all comments received. For effects of herbicides, please see response to comments in Letter No. 1. For prescribed fire, see response to comments in Letter No. 366 and appendix E (History, Uses, and Effects of Fire in the Appalachians). As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

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sunk a waste and so un-
 necessary. I've lived in
 this valley 71 yrs. and nothing
 like this has been done before
 as far chemicals I know
 about them too. We've used
 24 D etc. on fence rows
 etc. it really is powerful
 Some people are so aler-
 gic to just fungicides that
 are used on vegetable
 crops. My husband was
 one. We grew trellised
 tomatoes and the spray
 really hurt him.

I look at that clear
 cut & burned area every
 day and think how awful

Thank you for reading this
 Yours truly
 Vera B. Rogers

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Leske Becker
80 Wild Cherry Rd
Asheville, NC 28804

Dec 16, 1988

USDA Forest Service
Atlanta GA

Dear Regional Manager :

- 1 For the record, please note I am against the spraying of herbicides on Federal / State lands. Many herbicides (if not all!) have been proven to
- 2 be highly toxic thru bio-accumulation. Our forest animals and other wildlife deserve better treatment. Also, the
- 3 groundwater is in serious danger of becoming toxic thru ground seepage.

You would not be working for such an agency if you did not care abt the

Response to Comments in Letter No. 27

From: Leslee Beeler

Comment No.	Response
1	Your concern about herbicide use has been included in the content analysis of all comments received. Also please see response to comments in Letter No. 1.
2	The sections dealing with synergism, bioaccumulation, and cumulative effects in the human health and wildlife sections (draft EIS Appendix A, pages 5-46 to 5-51 and 8-2) suggest that, based on current data, half-life and elimination rates will prevent bioaccumulation.
3	See response to comments in Letter No. 57, Comment No. 2. Because of the stringent mitigation measures required in chapter II of the Final EIS, such as only class A herbicides, reduced application rates, 90% selective application techniques, and buffers avoiding rock outcrops and aquifers, we do not anticipate any problem with ground water contamination from seepage. Also buffers for stream crossings for utility aerial application treatments have been increased to 200 horizontal feet.

environment. Also, once the groundwater is spoiled, it takes millions of dollars to clean up. This is money that could be spent on O&M of parks, higher salaries, further purchases of lands, more personnel, etc..

I am an Environmental Engr w/
experience in the Drinking Water
Section of the EPA, Denver Region.

Please consider the damage of
herbicides - the cause cannot be equal
to the end result.

Thanks for listening.

Sincerely,

Lester Reiter Beeler

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Dear Sir,

15 Dec 88

Please don't use chemical
 1 warfare to keep back the
 vegetation growth in our parks
 and wetlands. The run off alone
 will kill many creatures of
 the earth, and affect our water
 as well. Our children will
 suffer later as you well know.
 Thank you for your consideration
 with this matter.

Respectfully
 Campbell Cuthbert

Response to Comments in Letter No. 28

From: Campbell Cauthen

Comment No.

Response

- 1 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative C. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Please note especially the review of runoff and potential ground water contamination presented in section IV.G and appendices A and C of this document. See also response to comments in Letter No. 57, Comment No. 2.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Yes & No.

Why?

Comments on Alternatives:

1

Alternative D, is to risky I don't think your managers could be trusted with your herbicide program.

Why? *Herbicides are not the answer, it is cheap for you, because you don't have the manpower for manual & mechanical weeding.*

Other: *Alternative F*

Why? *Because 70% of the land you will be treating is either water shaded or to steep & run off can not be controlled*

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Lindsey A. Rogers
 Name: First *LA* Last (Organization)
Box 534 RT 3
 Street
Canton NC 28716
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 29

From: Lindsey Rogers

Comment No.

Response

- 1 The herbicides proposed for use in the Final EIS are only the class A ones listed on page II-42 of the Draft EIS unless approved by the Regional Forester. These plus reduced application rates and more selective stem treatments should greatly decrease environmental risk. Manual methods are a very critical part of the vegetation management program and used extensively. However, there are some tasks such as controlling maple sprouts in hardwood management or herbaceous growth on steep roadbanks that are not effective when using manual methods.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

USDA Forest Service
1720 Peachtree Rd. NW
Atlanta, GA 30367

Dear Forest Service:

- 1 Thank you for my copy of *VEGETATION MANAGEMENT IN THE APPALACHIAN MOUNTAINS*. Reading it has given me a new appreciation of the thought and expertise which goes into an EIS such as this. The book gives me new confidence that the Forest Service has considered a wide range of public opinion based on differing priorities for forest use, and has made a sensible and politically defensible plan which we can all live with. I will support the Forest Service in the implementation of the plan.

- 2 Assuming this volume becomes the basis of vegetation management, the implementation of the plan always takes place in the face of budget and manpower constraints which force forest supervisors back on their own priorities. I would like to emphasize the significance for both the Forest Service and the forest user, whatever his or her use, of VISTAS. Vistas win friends. It's nice to have mountain top peaks like Waheh Bald for those who like to drive (or are unable to walk) to them. But it's so satisfying to hike to the top of a trail and break out into a broad view. Some of these spots (such as Bluff Mountain on the AT in Virginia) are easy to maintain. I can see the Forest Service struggling with others like Potrock Bald in the Fines Creek Area of the Nantahala NF, where forest workers are hacking and burning. Still most view possibilities are overgrown and obscured. Would it be easier to cut occasional vistas along trails and forest roads? I know that maintaining balds and other vistas is likely to receive low priority when manpower and funds are short. But if you take credit for views, they can win support for other activities. Put up a little sign which reminds the viewer that the bald didn't just happen, but that for Forest Service provided it by hard work.

Sincerely,

J. Richard Udry
J. Richard Udry
412 Elliott Rd.
Chapel Hill, NC 27514

16 December 1988

Response to Comments in Letter No. 30

From: J. Richard Udry

Comment No.	Response
1	The interdisciplinary team is pleased that you found the analysis well done and useful.
2	The issue of creating vistas is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 Scientific Analysis is only as good as the data supplied. Scientific studies can be shown to prove both sides of an argument. The chemicals used to spray by broadcast over large areas is unacceptable when surface and ground water can be affected.

Why?

2 Why? Why risk employees health, community health and long range degradation of ground and surface water when other means are available to accomplish the job. The cheapest job is not always the best.

Comments on Alternatives: The range of alternatives is too narrow.

3 Why? Alternative E would be acceptable with the use of fire. Alternative F though not specific in acreage breakdown allows for fire and is my preferred alternative.

Other: Chemical application and disposal of containers.

4 Why? Accidental spills - improper mixing dosage - risk to employees are unacceptable when other alternatives exist that eliminate the above.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

JAMES F. MCINTYRE USFS
Name: First MI Last (Organization)
121 ORCHARD HAVEN
Street
WISE VA 24293
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 21

From: James McIntyre

Comment No.	Response
1	The table presented on page II-10 (Draft EIS) indicates the only significant use of broadcast application under the preferred alternative is for right-of-way permittees. Only 20% of herbicide use in pine site preparation and pine timber stand improvement is permitted to be by broadcast application. In the Final EIS, alternative Modified D (see response to comment number 2) reduces these allowances to 10% each. Further, mitigation number 6 (page II-58 of the Draft EIS) requires selective application in preference to broadcast when practical.
2	Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
3	Your preference for alternative F was included in the content analysis of all comments received. Also see response to comments in Letter No. 522, Comment No. 1.
4	Mitigations on pages II-58 through II-65 (Draft EIS) require use of lowest effective application rates and mandate strict controls to avoid the occurrence of rare accidental spills and to quickly contain and clean them up.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1

Your analysis is quite adequate and all inclusive for such an endeavor!

Why?

...

Comments on Alternatives:

There is a reasonable range of alternatives.

Why?

Other:

The preferred alternative offers a range of options/opportunities to manage the vegetation in the Appalachian Mts.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

James A. Hunt USFS
Name: First MI Last (Organization)
Box 4, Box 4 View Drive
Street
Lexington, VA. 24450
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 32

From: James A. Hunt

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: *This* ^{Expletive deleted} *they're not in*
3 inch thick so you think I or anyone else have time to
read all that ^{Expletive deleted} *summing these two values. so about*
5 or 6 pages in plain English and send that out too!
 Why? *I'll comment on it. Other than that, my only*
comment is as follows:

Comments on Alternatives: *" Roses are red, violets are blue*
Marine these forests like the people
hurt you to
Or they will not be nice to you!"

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

William R. Borrer
 Name First MI Last (Organization)
100 Freshly Rd
 Street
Freshkill, N.C. 27534
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 33

From: William R. Bonner

Comment No.

Response

- | Comment No. | Response |
|-------------|--|
| 1 | The interdisciplinary team views its writing assignment as equal in importance to the analysis. Good communications is a top priority. While many reviewers commented that this very complex technical subject has been handled very well, some may still find it overly complex. The summaries on pages iii through xvi of the Draft EIS attempt to address this problem. |

TENNESSEE VALLEY AUTHORITY
KNOXVILLE, TENNESSEE 37902

JAN. 2 - 1980

Mr. Steve McCorquodale
Team Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Road, NW.
Atlanta, Georgia 30367

Dear Mr. McCorquodale:

VEGETATION MANAGEMENT IN THE APPALACHIAN MOUNTAINS - DRAFT ENVIRONMENTAL
IMPACT STATEMENT (DEIS)

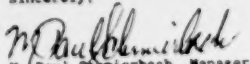
Per your request, the Tennessee Valley Authority (TVA) has reviewed the subject DEIS. In general, the DEIS comprises a very complete and thorough evaluation of the potential environmental impacts of various vegetation management practices and alternative management scenarios.

1 In Section II, page 64, item (30), the buffer zone between aerial and ground applications of herbicides and lakes, streams, and wetlands is stated to be 100 feet and 30 feet, respectively. We consider these buffer zone widths to be inadequate for environmental protection purposes. TVA's buffer zone standards for aerial and ground applications of herbicides along transmission line rights-of-way are 200 and 100 feet, respectively, and we recommend those distances for your consideration.

2 In addition, some strengthening of the sections on aerial application would be desirable including more detail on when and where aerial application is to be used, how sites are selected and marked beforehand, and the weather conditions in which such applications will be made.

We appreciate the opportunity to comment on the document. Any questions regarding our comments should be referred to Dale K. Fowler of my staff at (615) 632-6716 in Knoxville, Tennessee.

Sincerely,


M. Paul Schmierbach, Manager
Environmental Quality

Response to Comments in Letter No. 34

From: M. Paul Schmierbach

Comment No.	Response
1	Our buffers were based on actual field studies. However, to be more conservative, we have increased buffer widths for streams, roads, and trails to 200 horizontal feet in the Final EIS.
2	Chapter I, part C, explains the programmatic nature of this EIS. Since this is not a site-specific analysis, it is not reasonable or correct to specify where and when activities will occur. The best approach to determine activities for the affected national forest lands is to review the Forest Land and Resource Management Plan and the management prescriptions it contains. More specificity can be had by reviewing the Districts' annual program of work. This EIS describes for each alternative: a theme; a menu of methods; a menu of tools; constraints and objectives for use; and some acreage approximations used to model effects. The person conducting the site-specific analysis must apply the guidelines established in the selected alternative.

Post 5-2-70
January 2, 1970

Bjorn Dahl
Forest Supervisor
USDA Forest Service
P.O. Box 2750
Asheville, N.C. 28802

Dear Mr. Dahl,

1 I am writing to request that no chemical treatment using herbicides be allowed on the National Forest lands; specifically, alternative "A" of the "vegetation management" proposal by the USFS.

Until the Forest Service can come up with management practices that pose no threat to the precious animal & human life which depends on fresh water & unpolluted air for survival, common sense would dictate that no more poisons be pumped into the system.

Think about this, please, before acting.

Sincerely,
Patricia Ferrell

Response to Comments in Letter No. 35

From: Patricia Ferullo

Comment No.

Response

- 1 Your preference for alternative A and your concern about herbicide use were included in the content analysis of all comments received. Please note, however, that alternative A poses a serious threat to the survival of many threatened or endangered species. Not managing a forest carries risks which were found unacceptable, both biologically and legally. Also please see response to comments in Letter No. 1 and Letter No. 266.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: *December 27, 1988*

Why?

*A NOTE TO EXPRESS MY APPRECIATION
TO YOU IN SENDING THE TWO
DETAILED DRAFT ENVIRONMENTAL
IMPACT STATEMENT #1 + #2.*

Comments on Alternatives:

Why?

*DURING THE NEXT HOLIDAY DAYS
I'VE GLANCED THROUGH EACH - WE
ARE CALLED TO FRANKFURT FOR
LEGISLATIVE SESSION JANUARY 3rd, 89
AND TIME WILL BE LIMITED HOWEVER
REST ASSURED AFTER RE-JOURNAMENT*

Other:

I WILL CLOSELY REVIEW BOTH

Why?

*VOLUME'S --
PLEASE KEEP ME INFORMED AS I'M
VERY INTERESTED IN OUR NATIONAL
FOREST*

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

State Representative Paul W. Richardson

Name First MI Last (Organization)

Ed Mitchell

Street

Wicksburg Ky 40391

City

State

Zip Code

← Tear at perforation

Kentucky Legislature

Response to Comments in Letter No. 36

From: Representative Paul M. Richardson

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful.

→ Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: AFTER Reviewing the information I must state that the Forest Service has done a good job with the Analysis and I support the Forest Service preferred alternative.

Why? The Forest Service employs the experts that are able to make the correct decisions.

Comments on Alternatives: I would like to see the Forest Service make a better use of chemicals because you can get more done for the money spent, however I do understand the Environmental concerns.

I support the Forest Service preferred alternative D

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Bill O BURGESS (MEAD PAPER)
 Name First MI Last (Organization)
 P.O. Box 1964
 Street
 Kingsport TN 37662
 City State Zip Code

→ Tear at perforation

Response to Comments in Letter No. 32

From: Bill Burris

Comment No.

Response

- | Comment No. | Response |
|-------------|---|
| 1 | The interdisciplinary team is pleased that you found the analysis well done and useful. |

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

1

2

I am in agreement w/ Alternative D. The only concern I have is w/ aerial spraying and the drift potential. Ultimate care should be given to minimize this risk.

Why?

This appears to be the most cost effective method while at the same time balancing the other concerns cited.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

MARK A. BLAND / MESA POWER

Name: First MI Last (Organization)

P.O. Box 1964

Street

KINGSPORT TN

37664

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 38

From: Mark Bland

Comment No.

Response

- 1 Your preference for alternative D was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 The mitigation of aerial methods, requiring that only helicopter application be made, requiring the use of nozzles which produce only large droplets, and restricting activity to specified weather conditions, leads to very low-risk field operations. Modeling (displayed in both the Draft and Final EIS's) shows extremely high margins of safety for all persons (except the mixer/loader) involved either directly or indirectly in an aerial spray project when the required mitigation measures are followed. For herbicide mitigation measures, see pages II-58 to II-65 of the Draft EIS. The effects from potential drift have been further mitigated by widening the stream crossing buffers to 200 feet in the Final EIS (see mitigation measures, chapter II).

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 Appears adequate (if not excessive) to me.

Why?

...

...

Comments on Alternatives:

2 I support alternative D.

Why?

I believe it represents a reasonable mix of management methods, while seeking, through the increased use of herbicides, to improve the economics of treatment methods.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Sharon E. Mohney (RT)
 Name: First MI Last (Organization)
 2052 Birch Ave
 Street
 Buena Vista VA 24416
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 39

From: Sharon Mohney

Comment No.

Response

- 1 The interdisciplinary team views its writing assignment as equal in importance to the analysis. Good communications is a top priority. While many reviewers commented that this very complex technical subject has been handled very well, some may still find it overly complex.
- 2 Your preference for alternative D was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you ~~must~~ please help us by making specific and meaningful comments. Have we done an adequate scientific ~~study~~ Alternative respond to your concerns?

Comments on Scientific Analysis: I watches' CSPAN Sometimes, ^{REPORT OF IT}
Today Fri. Per. 30 Day told of the COLORADO act 25 N
1988 Greenhouse Effect. You know about. Then too
China was discussed, we have no control over. Why
Why? want to burn 'cool because they have it.
Because it is there. Note Matthew ch. 24 esp.
verse 7 and Mark Chapter 13 especially verse 8.
Note words like nation or Kingdom against Kingdon
Comments on Alternatives: and FAMINES and what CSPAN
talked of.

Also, why not note II CHRONICLES? Ch. 7
verse 14. "If my people..." are not believers
Why? Christians are people?

You may say the deep end is where I am, but
is God really made me and the earth can be, ^{God}

Other: not heal it and us? I may say,
so pray, also, pray about me and my prayers.
our earth is in trouble note, CSPAN T.V.

Why? Program: I feel FIRE is an over the heat
but we must take the GREENHOUSE INTO
account. But as on 60 minute CBS SUNDAY
BY AIR can end up elsewhere ^(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

So that leaves manual
machines cutting and
OTHERS AHEAD of
FIRE.

Tear at perforation

manual and
machines are first
choices now in
that order.

MR JAMES R. HITCHENS JR. IN P. v. p. u.

Name: First All Last (Organization)
60 EAST MEETING STREET,
Street
MORGANTOWN, N.C. 28655
City State Zip Code

THANK YOU PLEASE.

Response to Comments in Letter No. 40

From: James Hutchens, Jr.

Comment No.	Response
1	While the greenhouse effect and Central American resource policy are beyond the scope of this document, we have analyzed the potential of the evaluated tools to cause long-term "cumulative" effects. Relative to aerial spray drift, the technology currently used to apply herbicides is not the same as discussed on "60 Minutes." See chapter 4 in appendix A of the Draft EIS for a detailed description of drift potential. Also please note the mitigation measures outlined for aerial application of herbicides in chapter II of the Final EIS.

On PM magazine or somewhere, it said
 Rice, RICE, and cabbage, is good to
 fight CANCER WITH. on C SPAN
 it said Rice releases you to the
 zone or up there alone with
 animal gods etc.
 plant Rice the children do
 do they not?

SR.

Paulm the
 Paulm the
 maybe you all already
 happy new year.

73 verses 3

112 verses 1-10.

Know all of this, anyway,

Thank you please.

Reproduced from poor document.

John Morris
 PO Box 525
 Hot Springs, NC 28743
 19 Jan 89

USDA Forest Service
 1720 Peachtree Road NW
 Atlanta, GA 30367

Re: DEIS--Vegetative Management in the Appalachian Mountains

I have recently become aware of the existence of the above mentioned DEIS and of the Forest Service's preference for Alternative D, therein, and I wish to register my very strong protest.

Alternative D would treat 130,000 acres annually with methods the order of preference for which is almost the exact opposite of that preferred by the almost 700 people and organizations who voiced opinions on this subject when asked to do so by the Forest Service. Why?

Although I was not one of those 700 or so (I was unaware of the opportunity to respond), I live in the heart of the Appalachian Mountains, in Madison County, North Carolina, and I am very upset to learn that the Forest Service plans to inundate this mountain environment with chemicals and fire. First of all, the chemicals have not been proven safe for exposure to humans and animals--the data simply isn't available--and I am not interested in being the subject of yet another experiment while the chemical companies reap the financial rewards gained thereby. Their, and too often the government's, lack of concern for citizen safety has been thoroughly documented, and this data is available.

I also have serious concerns about using fire to control unwanted vegetation, given our increasingly obvious problems of global warming and species degradation.

Manual and mechanical alternatives to herbicides and fire, on the other hand, would, in addition to being much less harmful to the environment and its inhabitants, be labor intensive and thus tend to funnel tax dollars back into this depressed local economy instead of lining the pockets of chemical company executives and shareholders. And adoption of these methods would also have the effect of helping to restore people's trust in government, in general, and the Forest Service, in particular, by suggesting that these entities do indeed listen to the people whose welfare they have been charged with maintaining. Needless to say, the Forest Service's preference for Alt D has just the opposite effect.

Finally I'd like to close with one more protest against the Forest Service's emphasis on managing our forests as if they were tree farms and against the massive clear cutting which makes so much "vegetation control" necessary in the first place.

Sincerely,

John Morris

Response to Comments in Letter No. 41

From: John Morriss

Comment No.

Response

- 1 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

- 2 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 3 Prescribed fire is currently planned on about 46,200 acres per year on national forests in the Appalachians; this is 36 percent of the vegetation management program (Draft EIS page II-6). Alternative D, preferred in the Draft EIS, would increase fire's use to about 48,400 acres per year, or 37 percent of the program (Draft EIS page II-9). These programs would contribute less than 2 percent of the total forest fire smoke produced in the Appalachians and would play no significant role in the "greenhouse effect" (Draft EIS pages IV-121 and IV-122). Elimination of prescribed fire (alternative G) would eliminate our hazardous fuel reduction program (Draft EIS page II-16), thus increasing wildfire risks to workers and the public (Draft EIS page IV-145). It would also have adverse effects on some wildlife species and would prevent recovery of some threatened and endangered plants and animals that are fire-dependent (Draft EIS page IV-146).

- 4 See response to comments in Letter No. 57, Comment No. 3; and Letter No. 22, Comment No. 1.

- 5 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I oppose the use of all herbicides, with the possible exception of Roundup in areas frequented by tourists. It is true we stopped poisoning the ecosystem. It is totally irresponsible to even consider aerial spraying of Why? persistent chemicals like 2,4-D.

The reasons given for vegetation management on page 1 of Vol. 1, DEIS, are no justification for poisoning the environment. Young trees, wildlife habitats, and mountain-top balds managed to get Comments on Alternatives: along just fine for nothing without the use of herbicides. It seems ~~the~~ the ~~main~~ reason for spraying is to increase the productivity of tree farming on National Park land, for the benefit of the timber industry, and to increase the Why? convenience of the utility companies.

Stop the madness! No spraying!

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Phil Brown (last name)
Name: First MI Last (Organization)
Box Route, 157 Cedar Creek Road
Street
Black Mountain, NC 28711
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 42

From: Phil Barnette

Comment No.

Response

- 1 Your concern about herbicide spraying has been included in the content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. Note also: 2,4-D has a less than 28 day half-life; in 40+ years of use it has not been demonstrated to be persistent in the environment.

In the Final EIS (page II-61), class B, C and D herbicides that include 2,4-D cannot be applied without approval of the Regional Forester and after further analysis and additional mitigation measures are applied.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: Thank you for not clear cutting on top of the ridge, as I suggested before. But from observations this summer, to protect the trees on top, when the rootage is shallow, a hard striking down the ridge will have to be left in order to protect the trees on top, from wind.

Also when fires are set, after clear cut, greater precaution should be taken to keep plants from burning over private property. We lost half an acre by bush burning a year ago.

Comments on Alternatives:

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Harold C. Austin
Name: First MI Last (Organization)
962 Hampton Place
Street
Maconville NC 28115
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 43

From: Harold Austin

Comment No.

Response

- | Comment No. | Response |
|-------------|--|
| 1 | Mitigations presented for fire (pages II-52 to II-56 in the Draft EIS) should minimize the risk of a similar accident occurring. |

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

- 1 This Draft Environmental Impact Statement on Vegetation Management appears to be thorough and scientifically accurate.

Why?

Comments on Alternatives:

- 2 Prescribed burning: Apparently this method is not used on many acres. Since we normally have a number of forest fires, I wonder if the burning method has been over-used. It contributes greatly to air pollution and the greenhouse effect, and perhaps the time has come to reconsider this method. It would not greatly affect your overall plan to eliminate burning in most cases.

Why?

- 3 Other: HERBICIDES: My principal concern is on use of herbicides. There is not direct scientific evidence that herbicides will, in the long run, prove safe to our human habitat. In fact, in the Appendix, page 8-24, the statement is made that "Herbicides may affect the red-cockaded woodpecker directly through oral or dermal doses as was shown for other wildlife species...." In my opinion, if there is a
- 4 Why? shadow of a doubt concerning use of herbicides (and there appears to be quite a large doubt here), they should not be used. In particular, erial application of herbicides is what I consider highly undesirable and likely to affect species and areas unintentionally. Spot application may be acceptable, provided that the
- 5 water supply is not affected and less toxic (or nontoxic, really) herbicides are used.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Leah R. KARPEN (citizen)
 Name: First MI Last (Organization)
 518 Ox Creek Road
 Street: Weaverville, NC 28787
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 44

From: Leah Karpén

Comment No.	Response
1	The interdisciplinary team is pleased that you found the analysis well done and useful.
2	Prescribed fire is currently planned on about 46,200 acres per year on national forests in the Appalachians; this is 36 percent of the vegetation management program (Draft EIS page II-6). Alternative D, preferred in the Draft EIS, would increase fire's use to about 48,400 acres per year, or 37 percent of the program (Draft EIS page II-9). These programs would contribute less than 2 percent of the total forest fire smoke produced in the Appalachians and would play no significant role in the "greenhouse effect" (Draft EIS pages IV-121 and IV-122). Elimination of prescribed fire (alternative G) would eliminate our hazardous fuel reduction program (Draft EIS page II-16), thus increasing wildfire risks to workers and the public (Draft EIS page IV-145). It would also have adverse effects on some wildlife species and would prevent recovery of some threatened and endangered plants and animals that are fire-dependent (Draft EIS page IV-146).
3	Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
4	Appendix A is the Risk Assessment in which risk to humans and wildlife are identified and evaluated. The cited sentence is followed by one which specifically identifies broadcast application of 2,4-D and 2,4-DP as potential dangers. Mitigation number 9 (page II-59 of the Draft EIS) was designed to prohibit use of herbicide/method combinations which pose risk to threatened or endangered species. Selective application (tree injectors or cut surface treatments) pose no risk to red-cockaded woodpecker and so application in this manner is permitted.
5	See response to comments in Letter No. 38, Comment No. 2.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 THE TEAM DID A SPLENDID JOB TO PREPARE THE DEIS AND WHY NOT. SUCH IMPRESSIVE CREDENTIALS AND SO MANY YEARS INVOLVED IN THEIR FIELDS. THIS HAS ENABLED THEM TO GET THE BEST PLAN FROM THEIR KNOWLEDGE AND EXPERIENCE TO INVESTIGATE FACTS FOR THIS DEAT...

Comments on Alternatives:

BASED ON THE ABOVE, THEIR ALTERNATIVE PLAN D IS THE LOGICAL PLAN

Why? IT IS LOW OF COST PER ACRE, PROTECTS AND CONSERVES OUR LAND, NOT ONLY FOR FUTURE GENERATIONS, BUT FOR OUR WILD LIFE, OUR BALANCE OF NATURE.

Other: ALSO CREDIT IN THE SUPPORT GROUPS AND THE EXPOSURE TO INDUSTRY, COLLEGES AND OTHERS

Why? THE MORE, THE BETTER.

GOOD LUCK,

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

ARTHUR R. TESTA (EASTERN AREA) NEW
Name: First: AR Last: (Organization) SWISSLAN
Street: P.O. Box 64 TLEARY
City: WHITE SULF, N.C. 28679
State: Zip Code:

Tear at perforation

Response to Comments in Letter No. 45

From: Arthur R. Testa

Comment No.

Response

- | | |
|---|---|
| 1 | The interdisciplinary team is pleased that you found the analysis well done and useful. |
|---|---|

Reproduced from poor document.

4/7/89

Dear Sir

I am totally against the current plans to increase herbicide-spraying on our forests. Why do you want to poison us? I understand that "recreational areas" are one of the areas to be included. You must be aware that human beings frequent these areas. What about the health risk, or do you care? Please consider the long-term damage you will cause to wildlife and the environment, and do not increase spraying!

Sincerely

Jon & Aileen Pearlman
Fairview NC

Response to Comments in Letter No. 46

From: Jon & Aileen Pearlman

Comment No.

Response

- 1 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.



United States Department of the Interior
BUREAU OF MINES

P. O. BOX 25000
BUILDING 80, DENVER FEDERAL CENTER
DENVER, COLORADO 80225

Intermountain Field Operations Center

January 4, 1989

Steve McCorquodale, Team Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, Georgia 30367

Dear Sir:

Subject: Review of Draft Environmental Impact Statement (DEIS) for Vegetation Management on National Forests of the Appalachian Mountains area

- 1 Personnel of the Bureau of Mines reviewed the DEIS to determine whether possible impacts to mineral resources are adequately considered. Because the DEIS analyzes general effects over broad areas of vegetation management by means other than timber harvest, possible impacts are not evaluated for site-specific effects such as those that could be associated with mineral resources. Other EIS's would be prepared to address site-specific issues. We concur that possible impacts to mineral resources cannot be addressed realistically in a DEIS of such broad scope, and we have no objection to the document as written.

Sincerely yours,


William Cochran, Chief
Intermountain Field Operations Center

Response to Comments in Letter No. 47

From: William Cochran

Comment No.

Response

1 Comment noted.



Department of
Atmospheric Science
Fort Collins, Colorado 80523
(303)491-8293

January 3, 1989

Mr. Steve McCorquodale, Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, GA 30367

Dear Mr. McCorquodale,

I have received the 2 volumes related to Vegetation Management in the Appalachian Mountains and have several specific comments. Because of the length of my response, I responded by letter rather than using the form insert in Volume 1. My comments are:

- 1 • Mechanical treatments or prescribed fire should be the preferred approach, rather than herbicides under almost all situations. These two approaches are obviously less likely to have long-term environmental impacts;
- 2 • The spruce-fir forests of the southern Appalachians appears to have too little focus in the management plan. If the effects of acid fog and deposition can be mitigated, I suggest the Forest Service consider replanting to reestablish spruce-fir over its original pre-settlement range (e.g., see attached papers). Such spruce-fir could (i) help develop an additional source for these timber, and (ii) provide a different forest environment for recreationists;
- The existing federally designated wilderness areas should be used as cores from which larger wilderness areas can be developed over time. If the public wants, and finds such an approach desirable in the future, the federally designated areas could be formally enlarged. Using the federal lands as a resource, it is possible to create a larger wild habitat in the east which more approaches the large, more ecologically effective wilderness areas in the western U.S.

I would be glad to provide additional comments or input if useful.

Sincerely,

A handwritten signature in cursive script that reads "Roger A. Pielke".

Roger A. Pielke
Professor

Response to Comments in Letter No. 48

From: Roger Pielke

Comment No.

Response

- 1 Your preference for mechanical treatments and prescribed fire was included in the content analysis of all comment received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 The issues of spruce fir management and Wilderness Areas are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest.

Leon S. Minckler, Ph.D.
 Consultant - Environmental Forestry
 Integrated Forest Uses

623 Bogie Lane, Route 4
 Country Club Estates
 Blacksburg, Virginia 24060

Phone: 703/931-1198

January 4, 1989

Mr. John E. Alcock
 Regional Forester
 U.S.D.A. Forest Service
 1720 Peach Tree Rd., N.W.
 Atlanta, GA 30367

ATTN: Steve McCorquadaile

Dear Sir:

I received the DEIS on "Vegetation Management in the Appalachian Mountains, Vol. 1." I have both some general and specific comments in regard to this and other Forest Service DEIS's that I would like to discuss.

1

In the first place these are too long and complex for the concerned lay public to understand and really study. They should be simplified and made more readable for most of the public without technical skills and infinite patience. It is more of a reference source than an informative statement. On the other hand, the summary is too sketchy. It needs more "meat" for the lay reader.

2

At first, I was puzzled as to how you used the word "vegetation." To me this meant the whole forest cover and all the associated plants. Yet I soon got the distinct impression that you were writing about how to handle plants and shrubs competing with timber species. I saw little about silvicultural methods or harvesting methods for ecological forest ecosystems. That is, how to emulate nature except on a different time scale and for chosen objectives, and how this might eliminate "vegetation" manipulation? Later I realized that this did not, indeed, cover harvesting timber.

This bothers me because I don't see how you can separate the two. The "vegetation" is all the vegetation. In the summary you say "manipulation of plants other than timber harvest." How can you separate them except on old fields or brushy unregenerated areas? Is this what you mean?

The Appalachians have been a relatively stable ecosystem for tens of thousands of years without any of Man's "manipulation." Are you

Response to Comments in Letter No. 49

From: Leon S. Minckler

Comment No.

Response

- 1 See response to comments in Letter No. 33, Comment No. 1. The material is very complex, and we did our best to present it clearly yet thoroughly.
- 2 As stated on Draft EIS page I-2, activities addressed by the EIS are site preparation, timber stand improvement, wildlife habitat improvement, corridor maintenance, recreation site maintenance, bald management, and fuels treatment. The other major vegetation manipulation activities in the Appalachians (silvicultural systems and harvest cutting methods) were not addressed because they have already been covered in the Forest Land and Resource Management Plans (Draft EIS page I-7) as required by the National Forest Management Act.

Leon S. Minckler, Ph.D.
 Consultant - Environmental Forestry
 Integrated Forest Uses

625 Bogie Lane, Route 4
 Country Club Estates
 Blacksburg, Virginia 24060

Phone: 703/951-1158

January 4, 1989

Mr. John E. Alcock
 Regional Forester
 U.S.D.A. Forest Service
 1720 Peach Tree Rd., N.W.
 Atlanta, GA 30367

ATTN: Steve McCorquadaile

Dear Sir:

I received the DEIS on "Vegetation Management in the Appalachian Mountains, Vol. 1." I have both some general and specific comments in regard to this and other Forest Service DEIS's that I would like to discuss.

1

In the first place these are too long and complex for the concerned lay public to understand and really study. They should be simplified and made more readable for most of the public without technical skills and infinite patience. It is more of a reference source than an informative statement. On the other hand, the summary is too sketchy. It needs more "meat" for the lay reader.

2

At first, I was puzzled as to how you used the word "vegetation." To me this meant the whole forest cover and all the associated plants. Yet I soon got the distinct impression that you were writing about how to handle plants and shrubs competing with timber species. I saw little about silvicultural methods or harvesting methods for ecological forest ecosystems. That is, how to emulate nature except on a different time scale and for chosen objectives, and how this might eliminate "vegetation" manipulation? Later I realized that this did not, indeed, cover harvesting timber.

This bothers me because I don't see how you can separate the two. The "vegetation" is all the vegetation. In the summary you say "manipulation of plants other than timber harvest." How can you separate them except on old fields or brushy unregenerated areas? Is this what you mean?

The Appalachians have been a relatively stable ecosystem for tens of thousands of years without any of Man's "manipulation." Are you

Response to Comments in Letter No. 39

From: Leon S. Minckler

Comment No.

Response

- 1 See response to comments in Letter No. 33, Comment No. 1. The material is very complex, and we did our best to present it clearly yet thoroughly.
- 2 As stated on Draft EIS page I-2, activities addressed by the EIS are site preparation, timber stand improvement, wildlife habitat improvement, corridor maintenance, recreation site maintenance, bald management, and fuels treatment. The other major vegetation manipulation activities in the Appalachians (silvicultural systems and harvest cutting methods) were not addressed because they have already been covered in the Forest Land and Resource Management Plans (Draft EIS page I-7) as required by the National Forest Management Act.

Mr. John E. Alcock

January 4, 1989

speaking only of areas destroyed and degraded by Man's activities? Nature has provided mortality of large trees, windfall, and light fires in a humid climate. You have seen virgin and old growth forests in the Appalachians which did very well without your "manipulations," with the exception of Man-caused forest destruction.

- 3 I have just a word about "alternatives." I don't think they are useable region-wide or even forest-wide. Actions should be targeted to rather specific forest and site conditions. The alternatives are far too broad and the public is not qualified to choose one of 5 or 6 for a whole forest. They don't fit a whole forest.

- 4 Now I would like to comment more specifically on the preferred alternative D. The preferred alternative should include the following general goals; emulate the ecological naturally developed ecosystems and restrain or abolish artificial "manipulation" of natural forest cover, balds, etc. I think it should contain the following points:

- 5 1. Silvicultural systems that favor a continuous forest and good conditions for regeneration, including improvement cutting and killing or harvesting cull trees.
- 6 2. Decrease or eliminate use of herbicides except in special cases on a small scale. They poison the environment and there are better alternative methods.
- 7 3. Decrease or eliminate use of power mechanical methods, except to lightly scarify for better seed germination, as for yellow-poplar. Large scale power methods often cause erosion on slopes.
- 8 4. Use manual methods in non-commercial thinning and release and weeding if required. Non-polluting basal sprays may be used sparingly if there is a cost advantage.
- 9 5. Kill cull trees (pulpwood and firewood markets are now often available) and harvest financially merchantable trees. Leave openings for regeneration as dictated by stand conditions (as in nature; not mechanical patches).
- 10 6. Do not use application of aerial herbicide sprays. They are cheap but not safe. If "right of ways" agreements include aerial spraying try to get it changed to basal spraying or manual methods.
7. Use prescribed fires of low intensity only to reduce accumulation of fuel and to aid regeneration of species that will benefit more than be harmed. This would include oak

which are not good growing stock.

3 The alternatives proposed are not site-specific prescriptions which would be appropriate for individual projects. Rather, the EIS sets overall direction on the methods and tools, intensity and frequency of treatments, and mitigation measures to be used to accomplish the vegetation management objectives for the Appalachian Mountain forests as a whole. Environmental conditions at the project level will determine the specific need for, and amount of, vegetation management to be done (Draft EIS pages I-3 to I-5). Nevertheless, the preferred alternative is considered fully implementable as will be verified through management reviews and reports (Final EIS page II-55).

4 See Comment No. 2 above.

5 As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Our analysis shows that use of our least-risk herbicides as required by mitigations (EIS section II.E.2.c) poses minimal risk to the environment. These herbicides have very short toxic lives and will be applied mostly by selective means (directly to individual target plants) to lessen potential adverse effects (Final EIS page II-11 and appendix C, table 1).

6 Intensive mechanical tools that can cause serious erosion (raking and heavy disk) are not allowed in the preferred alternative (Draft EIS page II-8). The other mechanical tools cause minor erosion (EIS table IV-11). Mitigation measures I-8 on pages II-56 and II-57 are required to minimize soil loss and sedimentation from use of mechanical tools.

7 Management requirement numbers 1-4 on pages II-44-46 are designed to address site specific projects. IPM principles identified in number 3 will largely determine what method is appropriate. Manual methods may indeed be appropriate; however, where control of sprouting is required, a class A herbicide selective treatment may be necessary.

8 See Comment No. 2 above.

9 Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS). Given these constraints, risks to the public and to water quality are minimal.

10 All treatments with prescribed fire are done at lower intensities with extensive resource coordination (pages II-52-56 in the Draft EIS). Fire is a natural process (EIS appendix E) and is proposed for several activities (page II-9 of the Draft EIS) such as habitat for threatened and endangered species, bald maintenance, brown spot control in longleaf seedlings, fuel reduction, and preparing sites for reforestation. Fire's use in hardwood stands will be very limited.

Mr. John E. Alcock

January 4, 1989

seedling sprouts in oak-hickory stands and in stands where southern pine should be maintained or encouraged. The normal mesophytic Appalachian forests are seldom benefitted by fire and fire scars are frequent on thin-barked trees and even pole-sized oak on south slopes.

Fire should not be used as a wildlife treatment except with the advice of a wildlife expert. These forests in the natural state are some of the most diversified temperate forests in the world and usually furnish outstanding wildlife habitat.

- B. Your statements about safety in use of herbicides, fires, and other manipulation methods go without saying. But somewhere this needs to be spelled out. Often the best way all around is to eliminate the action entirely. I know of few places in mesophytic Appalachian hardwoods where fire has been beneficial (and it is difficult to do properly except during extreme fire conditions because of climate). It may be used in areas of high accumulation of fuel but only with extreme care. Fire may also be used to preserve balds but many balds are at the margins of timber line and have a cover of laurel-type shrubs as well as grass. The grazing may also be isolated in remote areas. Balds often have a cover of natural vegetation adapted to that place and usually should not be "manipulated." Natural ecological forces have been active there a whole lot longer than foresters' new and untested techniques.

To sum up, your DEIS is too long and involved for the public and too addicted to "management" with too little regard for ecological constraints and the lessons of thousands of years of natural ecosystems. The "manipulations" may not be necessary at all and probably will not result in the beautiful and healthy Appalachian forests that occurred naturally. The DEIS asks the public to make choices of specific actions with little or no understanding of their long-term need and actions. This is just sort of a vote by people who don't know what their vote really means. Lastly, I don't think you can divorce this "vegetation management" from silviculture of the forests.

Sincerely,



Leon S. Minckler

We believe alternative MODIFIED D represents an excellent blend of methods to achieve our vegetation management objectives in concert with ecological processes and constraints. The tools allowed are all of lower intensity to minimize potential adverse impacts. We have added a new section to chapter I (Final EIS pages I-3 to I-8) to more clearly disclose the need for vegetation management and the use of various tools.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

1

*Alternative A should be the preferred choice. Possibly
"B" WITH NO clear cutting or logging of any kind,
Hand spraying only + no more logging Roads
of any kind.*

Why?

*Let Nature take its course, or we will be classed
with the Brazilians + their Amazon Horror.*

Other:

*With the ozone layer disappearing, we are helping
to destroy our world, with every tree that is cut
down. Remember that trees never die of old age,
only fire, disease and man kills trees, mostly man.
Trees should not be classed as a plant to
be harvested, a dirty word in silviculture.*

2

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

STEVES JANOSIK
Name: First MI Last (Optional)
RRI
Street
Westville ILL. 61883
City State Zip Code

2474 First
Wheeler Ave.
Superior, WI
For By Bus
NRDC
Bureau
Conservation

Tear at perforation

Response to Comments in Letter No. 50

From: Steve Janosik

Comment No.

Response

- 1 Your preference for alternative A was included in the content analysis of all comments received. The issues of clearcutting and silvicultural systems are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
- 2 Trees do, in fact, die of old age and part of good silviculture is recognizing this fact and the species level constraints which it puts on tree management. Also note "harvesting" is an appropriate term in silviculture -- properly done, harvest allows renewal of a forest which otherwise would stagnate and decline.

Dec. 13, 1988

Dear Sir:

After Receiving your
 impact statement ^{ES 11/15/88} Volume, it would
 Take me a week to Respond to the
 Vast amount of information.

So I am going to make it short
 with the following Reasons you
 should not Go along with Sen. Hodel's
 horrible Recommendations.

- 3 1. You know about the ozone
 Problem, caused by the deforest-
 ation of the Amazon + Indonesian
 Juncles + the burning thereof.
- 4 2. By your clear cutting +
 building Roads for the loggers
 + the loss of tax payers money, you are
 padding the profits of Lumber Co's.
3. You are doing exactly
 what the Amazonians are doing,
 cutting + burning. You at least
 are educated + should Realize
 the tremendous harm you are
 doing to the last forests east
 of the Mississippi.

- 3 The Amazonian and Indonesian slash and burn policies are only a small part of a worldwide problem. However, harvesting and replanting in a mesophytic forest is not comparable.
- 4 The issues of clearcutting and road building are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest.

4. I am hoping that when Pres. elect Bush comes in office, he will replace Hodel with a person more environmentally minded, as I suppose you must follow his orders.

5. A good phrase to remember is "Where a wheel can go, the wilderness is next."

6. I see by your impact volume that I am the only individual to protest your actions from Illinois. I apologize for them, but they are probably worrying over the Shawnee Forest here & the National Forests that they are clear cutting out West.

Do you know they are still cutting 1000 year old Redwoods for shingles?

My impact response
is by separate mail.

Respectfully yours

Steve Janosich
RR1

Westville IL

61553

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
PATUXENT WILDLIFE RESEARCH CENTER
LAUREL, MARYLAND 20708



FEB 1 1989

Mr. Steve McCorquodale
U.S. Forest Service
Room 362 South
1720 Peachtree Road, NW
Atlanta, Georgia 30367-9102

Dear Mr. McCorquodale:

On January 27, 1989, you sent us a review copy of Vegetation Management in the Appalachian Mountains, Volume I, Draft Environmental Impact Statement.

You may recall that on January 12, 1989, we sent you extensive comments on Appendix A of this report. At this time we have no additional comments to offer.

Thanks again for the opportunity to participate in the review process.

Sincerely,

ACTIN Director

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
PATUXENT WILDLIFE RESEARCH CENTER
LAUREL, MARYLAND 20708



JAN 12 1989

Mr. Steve McCorquodale
U.S. Forest Service
Room 362 South
1720 Peachtree Road, NW
Atlanta, Georgia 30367-9102

Dear Mr. McCorquodale:

On November 22, 1988, Mr. John E. Alcock, Regional Forester, sent us a review copy of Appalachian Mountains Vegetation Management--Draft Environmental Impact Statement.

Dr. Ronald Eisler, a research biologist at the Patuxent Wildlife Research Center, has reviewed the draft; his comments are enclosed. If there are any questions, please contact Dr. Eisler directly at FTS 956-7286 or 301 498-0286.

Thank you for the opportunity to participate in the review process.

Sincerely,

ACTING Director

Enclosure

Reproduced from poor document.

Comments on: Draft Environmental Impact Statement. Appendix A. Draft Risk Assessment for the Use of Herbicides in the Southern Region. USDA Forest Service. Dated November 3, 1988. Authors: J.A. Weeks, S.B. Donahoe, G.H. Drendel, R.S. Jagan, T.E. McManus, and P.J. Szerzenie. Prepared for the USDA Forest Service under Contract 53-3187-4-22 Labat-Anderson Incorporated, 1111 19th Street North, Suite 600, Arlington, VA 22209.

1. General comment. Based on use patterns of herbicides in the Southern Region, USDA Forest Service, and on a scarcity of chronic toxicity data on these compounds, the proposed criteria for wildlife protection are inadequate and--in most cases--may result in unacceptable risks to natural resources.
2. Criteria selected for animal protection seem arbitrary and capricious. The authors predicate their wildlife risk assessment on those proposed by EPA in Report 540/9-85-001 (Note: the correct number of this report is 540/9-86-167, according to C. Grimes, Document Management Section of EPA, Information Services Branch). In that report EPA recommends--for human health protection--an uncertainty factor of 100 applied against the NOEL (no-observable effect level). But for wildlife it is at least several orders of magnitude less protective, namely, an uncertainty factor of 5 applied against an acutely oral LD-50 dose, i.e., $1/5 \times \text{LD-50}$ (in the absence of chronic toxicity data). The uncertainty factor is $1/5$ for avian and mammalian wildlife--except endangered species in which case it is $1/10$. In the case of nonendangered and endangered aquatic organisms, the uncertainty factors are $1/10$ and $1/20$, respectively. In the absence of chronic toxicity data an uncertainty factor of 100 to 1,000 based on acute lethality is more conventional, may offer a satisfactory degree of protection, and can always be adjusted (usually downwards) on acquisition of more definitive data. If conventional uncertainty factors were applied, no herbicidal compound proposed for use would adequately protect natural resources.
2. The authors have not analyzed chronic toxicity dosing data for the herbicides in question. Their reasons include: data are scarce, missing, or incomplete; herbicides degrade rapidly; sites are treated only once a year; and compounds show little tendency to bioaccumulate or to persist. Nevertheless, the all-important longterm or latent effects that may disrupt reproductive success or community structure can't be ignored. For example, DDT would probably receive a clean bill of health for wildlife based on the $1/5 \times \text{LD-50}$ dose (assuming that no data were available on chronic or latent effects). But, as is well-known, this dosage would result in decimation of avian wildlife owing to DDT-induced eggshell thinning.
3. It does not seem reasonable to set herbicide criteria for protection of amphibians and reptiles based on toxicity data derived from an avian surrogate.
4. At realistic 2,4-D dose levels, many species of avian and terrestrial wildlife will experience damage effects based on $1/10$ of the LD-50 value of the most sensitive laboratory species tested (a 2-fold increase in protection). Under extreme doses expected under field conditions, effects would be exacerbated and domestic animals would also be expected to show adverse effects. For example, the most sensitive bird species tested was

Response to Comments in Letter No. 51

From: David L. Trauger

Comment No.

Response

- 1 The correct number for the document "Hazard Evaluation Division - Standard Evaluation Procedure: Ecological Risk Assessment" is EPA 540/9-85-001, as stated in the Risk Assessment bibliography. It is dated June 1986 and was published by the Office of Pesticide Programs of the United States Environmental Protection Agency. This document contains a detailed description of the derivation of the risk criteria used by EPA and by the preparers of this EIS. Briefly, from a log-probit model developed from examination of a cross-section of dose-response data, it can be estimated that a dose or exposure 10 times lower than the LD_{50} would be expected to lead to a mortality rate of about 0.01 percent under typical slope conditions, but to a mortality rate of 4 percent under minimum slope conditions. A dose or exposure 5 times lower than the LD_{50} would be expected to lead to mortality rates of about 0.1 percent. These factors would be expected to provide an ample margin of safety for a typical species, but only marginal protection to the most variable (i.e., sensitive) species. Therefore, endangered species are evaluated using safety factors of 10 and 20 for terrestrial and aquatic species, respectively.

Another point to keep in mind is that the exposures to wildlife were calculated using conservative assumptions, so the risks to wildlife species are likely exaggerated over those that may be encountered as a result of the program. Please refer to the explanation of dose and environmental concentration calculations in section 7 of the Risk Assessment appendix.

- 2 If sites are treated only once per year, there would be no environmental accumulation of the class A herbicides which have half-lives of 6 days to 2 months (appendix C, table 1). A hazard analysis that reviewed wildlife and aquatic species toxicity studies was undertaken (see section 6 of the Risk Assessment) to identify any effect that may not show up in a risk analysis based solely on a comparison of LD_{50} 's to environmental concentrations and calculated doses, such as the reproductive hazards you mention regarding the organochlorine insecticide, DDT. This effect appears to be specific for the organochlorides and there is no indication that the herbicides reviewed in this Risk Assessment would result in this type of effect.
- 3 The use of avian data as surrogate for unavailable reptile or amphibian data is reasonable. Please see also response to comments in Letter No. 583, Comment No. 14. This analogy is generally acceptable (though not the most desirable situation).
- 4 We agree and include this information within the Draft EIS. Please see the mitigations in chapter II which apply to rates, timing of application, and selection of herbicide for use (pages II-58-59; numbers 1-8) and also those for terrestrial threatened and endangered species protection (which correspond to the 1/10 LD_{50} standard). In the Final EIS Class B and C herbicides (2,4-D; 2,4-DP; tebuthiuron) require Regional Forester approval. Extreme doses are not expected under field conditions.

the chukar, with an acute oral LD-50 of 300 mg 2,4-D/kg body weight (BW). A suggested criterion would be $1/10 \times \text{LD-50} = 30 \text{ mg/kg BW}$. This value would be exceeded by the eastern bluebird at realistic dose estimates (see Table 8-1), and by all 6 avian species for which data are available under extreme dose estimates. For mammals, the criterion would be 10 mg/kg BW based on the dog; this value is exceeded under realistic dose estimates by the shrew, cotton rat, red bat, and meadow vole, and under extreme dose estimates by all 11 mammalian species listed. For domestic animals the $1/10 \text{ LD-50}$ value is 5 mg/kg BW (cow)--which seems adequate under realistic doses, but fails to protect poultry, cows, or dogs under extreme dose estimates (see Table 8-1).

5

6. Using $1/10$ of the LD-50 dose, based on the most sensitive species tested, most herbicide compounds listed will not protect avian or mammalian wildlife at realistic dose estimates (2,4-DD; 2,4-D; Triclopyr) or at extreme dose estimates (2,4-DD; 2,4-D; Triclopyr; Tebuthiuron; Hexazinone; Fosamine; Dicamba; Picloram; Glyphosate). Only 5 compounds seem to offer an adequate degree of protection based on $1/10$ of the LD-50 acute oral dose (Sulfometuron; Kerosene; Diesel oil; Limonene; Imazapyr).

7. The criterion that was arbitrarily selected ($1/10 \times \text{LD-50}$ vs. author's $1/5 \times \text{LD-50}$) should not be construed as endorsement of any herbicidal compound, or even as indicative of an adequate uncertainty factor. It is strongly recommended that longterm chronic studies be initiated with herbicides not now posing an immediate threat to survival, to determine if their continued use at current application protocols will protect animal health, survival, growth, and reproduction.

5

See mitigations cited above (No. 4). We agree with commenter's desire for adequate long-term toxicity testing and identify this in our section (chapter IV) of Research Needs.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Post Office Box 845

Cookeville, TN 38501

January 13, 1989

MEMORANDUM

To: Regional Director, Fish and Wildlife Service, Atlanta, GA

From: Acting Field Supervisor, Fish and Wildlife Enhancement,
Cookeville, TN

Subject: Response to Request for Comments on Forest Service Draft
Environmental Impact Statement

This memorandum is in regard to the subject document entitled "Vegetation Management in the Appalachian Mountains", a proposal by the Forest Service for vegetation management in Southern Appalachian National Forests. We have reviewed the impact statement and offer the following comments and recommendations.

The impact statement thoroughly describes the methods used for vegetation management and their effects on terrestrial and aquatic resources. Measures to be implemented to mitigate for or avoid impacts to fish and wildlife resources are presented for all management methods. The environmental impact statement also contains a risk assessment for all of the herbicides proposed for use; assessments of effects of prescribed fire on soil and water quality; and impacts of the preferred alternative on endangered, threatened, proposed, and sensitive species.

The Fish and Wildlife Service agrees that implementation of the preferred alternative is not likely to have significant adverse impacts on fish and wildlife resources. However, we recommend that qualified biologists conduct site surveys prior to treatment to determine if federally listed or proposed species, wetlands, or other significant fish or wildlife resources are present. Although most of the herbicides proposed for use are not highly toxic to fish and wildlife, the risk assessment indicates that there is a potential for adverse impacts when they are applied at maximum rates. Therefore we recommend that none of the herbicides be applied at maximum rates. We further recommend that 2,4-D; 2,4-DP; and Triclopyr not be used because of their potential to adversely impact bats, even when applied at normal rates. If an accidental spill occurs, or if impacts to endangered species are observed, treatment should cease and the Service should be notified.

Fourteen errors were noted in Appendix F. The list of Forest Service designated sensitive species contains the following species that are federally listed:

Response to Comments in Letter No. 52

From: R. T. Bay

Comment No.	Response
1	Mitigation measure number 1 (page II-44, Draft EIS) requires site-specific analysis prior to any action. Concerns cited are among those which must be considered.
2	Mitigation measure number 5 (page II-58, Draft EIS) states in part: "...Application rate and work time may exceed those shown as typical ... only when a supplementary assessment of risk establishes that proposed rates will not cause risk to human health, wildlife..." Mitigation number 9 (page II-59, Draft EIS) speaks to buffers necessary to protect bat habitat. In the Final EIS, class B and C herbicides, which include 2,4-D, cannot be applied without Regional Forester approval.
3	All these species were checked and listed in the appropriate tables as recommended. <u>Hudsonia montana</u> is listed as threatened in the Endangered and Threatened Wildlife and Plants publication of January 1, 1989, by the Fish and Wildlife Service. <u>Liatris helleri</u> is also listed as threatened in the same publication.

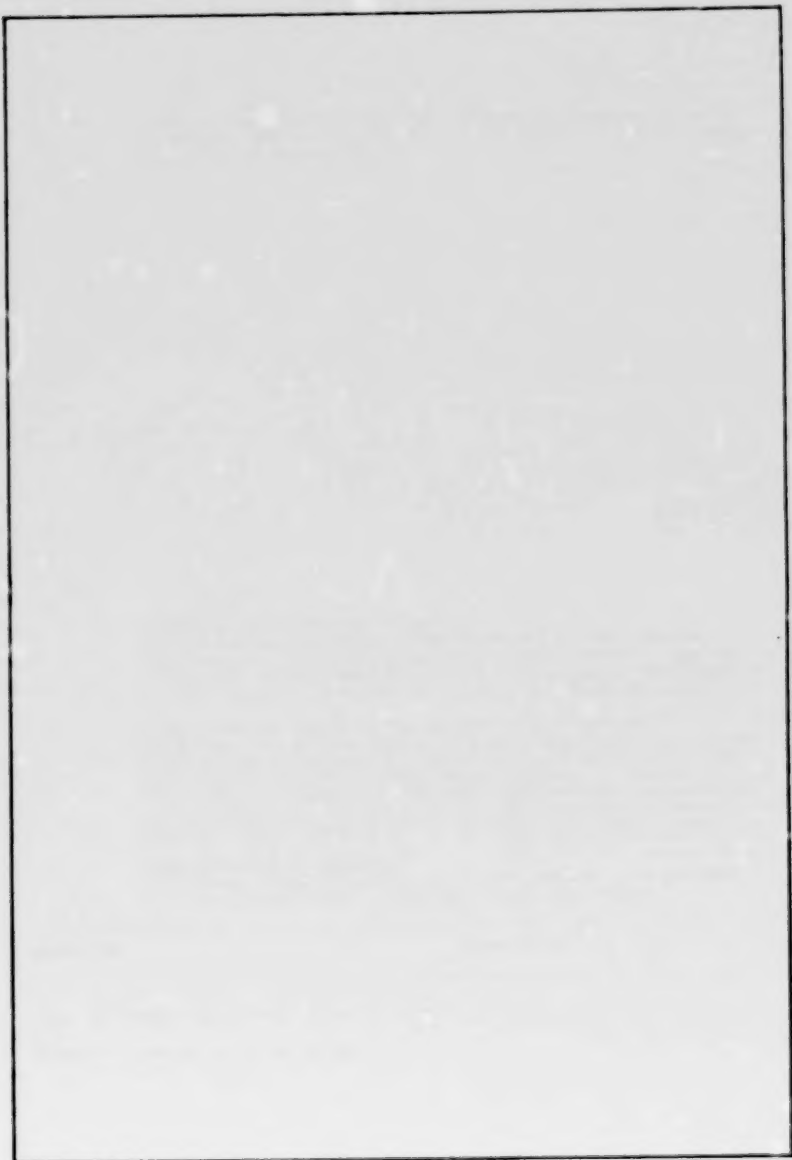
1. Blackside dace - Phoxinus cumberlandensis (T)
2. Pink mucket mussel - Lampsilis orbiculata (E)
3. Little-winged mussel - Pegias fabula (E)
4. Rough pigtoe mussel - Pleurobema pium (E)
5. Cumberland monkeyface mussel - Quadrula intermedia (E)
6. Cumberland bean mussel - Villosa trabalis (E)
7. Cumberland sandwort - Arenaria cumberlandensis (E)
8. Mountain golden heather - Hudsonia montana (E)
9. Heller's blazingstar - Liatris helleri (E)
10. Green pitcher plant - Sarracenia oreophila (E)
11. Large-flowered skullcap - Scutellaria montana (E)
12. White-haired goldenrod - Solidago albopilosa (E)
13. Blue Ridge goldenrod - Solidago spithamea (T)

These species should be included on the list of federally listed species in the final impact statement. The sensitive species list also contains a plant species called "purple lilliput" (Toxolasma lividus). This species is not a plant, but a freshwater mussel and should be placed with the other aquatic invertebrates.

Thank you for giving us the opportunity to comment.

L. T. Bay

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January 12, 1989

USDA Forest Service
Comments on:
Vegetative Management of Apalachian Forests EIS

I recently had a chance to review the EIS and appendix on vegetative management for our local forests. As usual, these documents were extremely unwieldy and difficult to decipher. With patience one does find information there, much of which is very disturbing.

1 I note that previous public response has indicated clear preference for manual and mechanical methods in preference over use of herbicides and fire. This not only reflects subjective instincts, but also the fact that many of the herbicides used have never been fully tested, and the fact that fire contributes to degradation of our atmosphere. Never-the-less, the Forest Service's end recommendation has reversed the order of preferences. This makes one wonder why the public is asked. Is this process a mere formality?

2 It's also necessary to point out that "Alternatives" A-H do not represent a fair range of options. There is no alternative designation that comes close to my preference, or that of the general public, unless it is "A", which is do nothing. All other alternatives juggle large percentages of herbicides and/or fire with small amounts of mechanical or manual control.

3 One important reason that herbicides and fire management are dominant is that the Forest Service continues to prefer clear cutting as the harvest method of choice. The growth that results after clear cutting tends to be very weedy, and often overloaded with undesirable species. In contrast, when selective cutting is used forest management calls for mechanical and manual methods to clean up debris and repair disturbed soil.

I believe that a more logical and ecological alternative would emphasize mechanical and manual management. Herbicides and fire should be used only in very particular circumstances. I would also emphasize that vegetative management cannot be isolated from harvest methods. If the Forest Service continues to favor clear cutting I believe that we will see extensive use of herbicides and fire, regardless of public opinion.

Drew Langsner
Drew Langsner
90 Mill Creek
Marshall, NC 28753

Response to Comments in Letter No. 53

From: Drew Langsner

Comment No.

Response

- 1 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

Through use of all relevant existing data and conservative models that consistently and deliberately overestimated potential adverse effects, the 11 studied herbicides have been exhaustively analyzed in the EIS. Prescribed fires on national forests account for less than 2 percent of forest fire smoke produced in the Appalachians and so have minimal effect on the atmosphere (Draft EIS page IV-112).

- 2 Alternative F permits no herbicides; alternative G permits no prescribed fire; alternative E reduces both fire and herbicides. The reverse is also shown: in alternatives E and F manual treatment increases are evaluated; while in alternative H all methods except mechanical are evaluated at increased levels. These shifts substantially vary the program and effectively cover both public issues and a broad range of alternatives.
- 3 While clearcutting is not within the scope of this EIS, it is necessary to point out that the generalization about selective cutting is generally inaccurate. Selective management may require an increase in herbicide use to permit establishment of desirable regeneration (Final EIS section I.8) periodically every 10-20 years.

A. J. Goldenthal

Golden Stream Farms
Fort Valley, Ga. 30828
Golden Stream, VA 22060

Jan 12, 1988

1280 128-000

U.S. Forest Service
Department of Agriculture
1720 Peachtree Rd NW
Atlanta GA 30367-9102

Dear Folks: Comments on Environmental Impact Statement
of Forest Service activities - Yes Wash. Nat. Forest

You have invited comments on the
draft statement.

I live at the address above which is
located about one mile ~~west~~ ^{east} of the Little Fort
Recreational Area and about five miles south
of the Elizabethtown Furnace Rec Area. I've been
here for nearly 50 years. Your present policies are
largely destructive by any standard:

1. (1) The opening of the 12-mile trail
from Little Fort to the Edinburgh Gap to
ATVs & Four-wheel Drives is merely the
worst of your designs. This is acknowledged
by the local Forest Service people as sheer
madness: Destroying large areas by erosion &
destruction of trees & plant life, the stream bed
is ruined, trout stream destroyed, wild life
is driven into valley to be destroyed, the
camp is often uninhabitable, traffic
(over)

Response to Comments in Letter No. 54

From: A. J. Goldenthal

Comment No.

Response

- 1 The issues of trail location, ORV use, and recreation site management are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest. Chapter I, part A, explains that each forest has a Land and Resource Management Plan (which was prepared under 36 CFR 219). The operational problem reported here should be brought to the attention of the appropriate District Ranger.

on roads, sometimes driven off by these vehicles. It is our understanding that a directive from the U.S. Forest Administrator requires these trails. He obviously has not seen the results. Such activities have no place in the Forest's program here!

② The Service's management of Elizabeth Furnace Rec. Area should be improved. The main problem is terrible over-crowding onto roads - parking & blocking traffic plus other problems of wild behavior & littering. Such a facility needs to be controlled and policed or closed!

I am writing to bring your attention to the seriously destructive results of the Service's management. As our name implies Fort Valley is shaped like a Fort and so named by Geo Washington. Traffic can be controlled by stationing guards at 3 points & some results favor this.

It is ironic that a place named by Washington should be destroyed by officials acting on behalf of the U.S. Forest!!

Yours truly, A. J. S. (signature)

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Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: *IT seems that a great deal of thought and effort has been taken each alternative and I can find no strong argument against your choice.*

Why?

Comments on Alternatives:

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

James B Henderson
 Name: First MI Last (Organization)
Box 1949
 Street
Kingsport, TN 37642
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 55

From: James D. Hendrickson

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful.

Mt. 1, Box 419
Fincastle, VA 24090
January 9, 1989

U.S.D.A. Forestry Service
1720 Peachtree Rd. NW
Atlanta, GA 30367

Dear Ladies and Sirs,

We commend you all for the fine job you did on the EIS for Vegetation Management. With our previous knowledge of the intelligent professionalism of the Jefferson National Forest staff, we might say "but of course this is the standard they'll continue". We are impressed with your achievement. We have donated our EIS book to the local library with the suggestion they keep it as a valuable reference tool.

The scientific analysis seems complete enough and adequate for the purpose. It is hoped that continued evaluation will be made as new data is in so that the materials used will be those least harmful to the environment.

Our comments on the alternative plans are as follows: In comparing plan D with plan E, we see an "increase of herbicides and fire" (for D). Both of these pose health and/or safety risks for workers as well as environmental factors. In plan E, the increase of manual tools "significantly increases worker safety". It's either, or.

Any careless or untrained worker is a risk, to himself, to others and to the environment. With your excellent record of training workers and your current fine safety record, we don't see "human risk" as the highest priority. It must continue to be a factor in program planning and implementation, but should not bend your choices.

Forest workers may be the people who can help develop safer and perhaps entirely new manual tools. For example, when cutting shoots in tree management, neither a power saw nor herbicides need

Response to Comments in Letter No. 56

From: Marjorie & George Roberts

Comment No.

Response

- 1 For clarity, the quote concerning manual tool use in Alternative E reads (page II-81, Draft EIS): "... significantly increases risk to worker safety." We agree that carelessness contributes to most accidents, however, even in the best managed program accidents happen when hand-held cutting tools are used.

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to be used. Razor sharp clippers designed specifically for the job might eliminate both saw and chemical hazards for a large percent of the jobs.

- Our objection to using herbicides on roads is the hazard to small birds. Roadside habitat is home to thousands of them. A bird
- 2 cannot distinguish which berry, seed, or insect has been sprayed. Small bird and quail population has decreased sharply in some areas. So, we'd like those habitats spared. There are good jobs available locally for roadside maintenance, and manual work is no more hazardous than breathing herbicides all day.

- The increase of herbicide in plan D is not just aerial. We can understand a bit of that, ^{method} in the most inaccessible areas for power line right-of-way. BUT, why in recreational areas? Why in "other wild-
- 3 life" habitat?" Why, really, on roads? Hiring temporary local people will add to the economy locally. It will also add to a feeling of community involvement in the care of our forests.

- We also consider water as one of the prime values in our forests. Alternative E has over all the "Lowest sediment and herbicide risk to water and aquatics". Even with so-called "safe" herbicides there
- 4 is risk. It may be cumulative; it may travel. Your efforts to keep this vital resource of water as pure as possible are appreciated.

Plan D, therefore is NOT our preferred plan. Plan E is.

Again, you folks are great! This is an impressive, professional job. We hope private foresters will also use it as a guide. We thank you for all your work and thank you for listening.

Sincerely,

Margorie H. Roberts
George L. Roberts

2

Please see tables presented in the Risk Assessment (appendix A) which show the risk to various animals (including small birds); specifically see tables B-1 through B-14 which show risk to be within EPA risk standards for non-threatened or endangered species when typical application rates are used (required by mitigation number 5, Draft EIS page II-58). Basis for these projections is presented in section 7 of the Risk Assessment; it includes assumptions that unrealistically threaten the health of potentially affected animals so that the conclusions drawn are conservative favoring protection to these animals. See also response to comments in Letter No. 22, Comment No. 1, and Letter No. 57, Comment No. 3, concerning employment. Mitigations requiring herbicides to be applied as granules or large droplets in favorable weather (Draft EIS pages II-62 and II-64) virtually preclude the chance of inhaling herbicide vapors. Please also review the health and safety section in the EIS (chapter IV, pages 3 through 31). Conclusions based on data from Region 8's program are opposite those of commenter; manual work does present greater risk for workers than herbicide application as described in this EIS.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

3

There are several possible scenarios wherein the use of herbicide would be less risky to workers, and not significantly risky to visitors. Control of poison ivy, oak, or sumac come immediately to mind. All treatments along trails are selective, many of which do not involve spraying at all. We have expanded section I in the Final EIS to provide more information as to why treatments are needed for various activities. See also response to comments in Letter No. 1.

4

Risk of water pollution by herbicides is minimal (Draft EIS pages IV-99 to IV-106) with use of our required mitigations (Draft EIS pages II-58 to II-65).

58-125, 133-136, 140-147, 148-162, 171, 179-190
192-205, 213-215, 236-250, 287, 294-295, 306-310,
331-345, 410-415, 445-446, 516-521, 569-573

The above letter numbers are all of the same content and a copy of the letter is reproduced below. These numbers also appear next to the names of persons who sent them in chapter VI (Volume III). Most of them did not have an address. Therefore, we were unable to add them to our mailing list to receive an EIS.

USDA Forest Service VMT
Room 362 South
1720 Peachtree Street NW
Atlanta, GA. 30367-9102

Dear Sirs:

As residents of the Appalachian Mountains we feel it is our responsibility to comment on your plans to increase the use of herbicides to control unwanted vegetation in our forest service lands.

1 First of all we do not feel that these chemicals are safe, and we have already become alarmed at our high cancer rate. Our drinking water comes from these same mountains and the majority of us use fresh ground water as our source of drinking water.

2
3 Secondly, land clearing has been, and still is, our main source of income. The new proposal to decrease the number of acres cleared by manual labor means fewer jobs for our population which already has a very high unemployment rate.

Please reconsider your upcoming proposal, and list us as adamantly opposed to the increased use of herbicides in our area.

Sincerely,

Jeane Shapiro

Response to Comments in Letter No. 57

From: Form Letter, Robbinsville, NC

Comment No.

Response

- 1 Data presented in the Draft EIS indicates that use of herbicides in a carefully controlled program can be done in a manner which poses a lower risk of causing negative health effects or cancer than many activities performed routinely by many people. The document discloses the scientific record and current knowledge about the specific herbicides and tools evaluated for use in the Southern Region's vegetation management program. Mitigation measures (pages II-58 to II-65 of the Draft EIS) require careful planning, set-up, application, clean-up, and follow-up of all projects which involve herbicides. These mitigations are designed to ensure responsible, lowest-risk use of specified low-risk herbicides. Please see response to comments in Letter No. 169, Comment No. 2, for some current, very relevant citations to review.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Mitigations required in chapter II of the Draft EIS are designed to prevent contamination of surface or ground water. Lower application rates and other precautions designed to prevent applicator error (pages II-58-59; #4-8) and buffering requirements (page II-64) speak to this concern. Analyses throughout the document indicate that any potential contamination is significantly less than that allowed by EPA ground water standards.
- 3 Choice of treatment has essentially no effect on local employment, unless a program using primarily mechanical equipment or aerial herbicide application is substituted for the current program, as is shown in the EIS. What would be affected is the Forest Service's ability to fulfill current congressional multiple-use mandates. Manual vegetation management methods require regular retreatment to gain the desired effect. Since personnel levels do not change, choice of manual tools in many cases will result only in less effectively managed stands due to our inability to perform necessary retreatments. Also note that in some cases, manual treatments may cause undesired effects (eg. prolific stump sprouting of red maple when cut).

The Nature Conservancy



Non-Profit Org.

217 Forest Hill Dr.
Asheville, NC 28803
1-27-89

Dear Sir at VSDA

I strongly oppose the notion that our Forest Service is planning to use mgl herbicides in the Appalachian Mountains. I believe that toxic chemicals have no place in our national forest or parks. It seems that we have no way of knowing what future impact these chemicals will have on wildlife, water systems or plant ecology.

I consider this letter a negative vote towards your plans to use herbicides for vegetation management! Remember D.D.T.

Sincerely

Don A Pace

P.S.

Believe it's time for a more organic attitude with you people.

Response to Comments in Letter No. 126

From: Don A. Page

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comment received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1, 348, and 560.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: Your material seems biased towards supporting your conclusions to give priority to increased use of prescribed and prescribed fire as the dominant modes of vegetation management. There are significant data gaps on the carcinogenic potential on workers, animals, with quality and life quality of man by why? Resistant form causes of toxic chemicals to control vegetation. The method clearly constitutes a threat to the public welfare due to the environment that the others do not - these aspects seem to carry little weight in your decisions - that there is more data on the toxic effects in the biosphere of pesticides this use should be at the bottom of your list's not at the top -

From my point of view your alternative D is not in the public's best interest nor that of good management of our national forests. Your alternative seems what Why? Informed responses have suggested to be the wisest and preferred method i.e. in order Manual, mechanical, prescribed fire and least, herbicide. This is what the public seems to prefer when asked - i.e. low herbicides Other: and low fire in our national forests.

None of your alternatives seem to offer what the public seems to want so I suggest you consider an alternative Why? that reflects public input - some combination of F & B that would do the job adequately, provide jobs for people rather than chemical companies, be less destructive to the environment and people and respond to what most people who care about the forests want. (see attached sheet at bottom) How asked

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Elmer C. Hall

Name First MI Last (Organization)

Box 233

Street Hot Springs N.C. 28743

City State Zip Code

Tear at perforation

Response to Comments in Letter No. 127

From: Elmer O. Hall

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. Carcinogenicity is evaluated in the Risk Assessment and data is presented which indicate that the herbicides evaluated pose very low risk to workers and to the general public (see table 5-26 on page 5-40 of Draft appendix A). See also table 5-28 (page 5-42 appendix A) for a comparison of risks with common occurrences.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
- 2 Your suggestion to include an alternative in some combination of F and G was included in the content analysis. An alternative similar to this was included and evaluated in the Final EIS. It is called alternative "I" and is described in chapter II. For a comparison of this alternative with others, please see section G of chapter II and section N (Summary of Impacts by Alternatives) in chapter IV of the Final EIS.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

1

I PREFER ALTERNATIVE A.

Why? IT ELIMINATES THE USE OF HERBICIDES

Other: CONTROLLED BURNING IS BENEFICIAL
IN SOME CASES.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

ERNEST EDWARD MERRELL

Name: First MI Last (Organization)

BBN3 DEC 1976

Street

KNEECITY, TENN 37618

City

State

Zip Code

← Tear at perforation

Response to Comments in Letter No. 128

From: Ernest Edward Morrell

Comment No.

Response

- | Comment No. | Response |
|-------------|--|
| 1 | Please see response to comments in Letter No. 1; Letter No. 35, Comment No. 1; and Letter No. 266. |

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

burn, burn, burn, spray, spray, spray,
No, No, No!

Why?

why burn fragile top soil.

why put more chemicals into the
honey?

Comments on Alternatives:

65% manual

30% mechanical

5% cows.

Why?

So that fires and chemicals are kept
out of the forest.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Charles E. Bolden
Name First MI Last (Organization)
572 Old River Road
Street
Canton N.C. 28716
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 129

From: Charles K. Bolden

Comment No.

Response

1

Please see response to comments in Letter No. 1; Letter No. 22, Comment No. 2; and Letter No. 366.

Alternative F is very similar to the alternative you have suggested. Its effects are found in chapter IV of the Final EIS and a comparison with other alternatives is located in chapter II, section F, of the Final EIS.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

1

I do not feel that the Forest Service selection of Alternative D as the preferred method serves the best interests of the national forest, the overall environment, or the persons who will be visiting the national forest.

Why?

2

More and more evidence indicates the danger of herbicide usage. We simply do not know the long term effects of many of the materials that are being used. I think herbicide use should be kept to an absolute minimum.

Other:

I think the preferred method should include a high percentage of manual and mechanical means.

Why?

3

Manual and mechanical means would mean more employment for local persons in an area that suffers from a high rate of unemployment. Why should the money go to large chemical companies when it could go to pay the wages of local persons who desperately need employment?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Clay Smith
 Name First MI Last (Organization)
 P. O. Box 27
 Street
 Hayesville NC 28644
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 120

From: Clay Smith

Comment No.	Response
1	Your opposition to alternative D was included in the content analysis of all comments received.
2	Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
3	See response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I BELIEVE THE SCIENTIFIC ANALYSIS AND UPERMAN COMING WERE EXCELLENT AND IN MOST CASES PROBABLY MORE WAS GIVEN THAN NECESSARY. THE APPENDICES WERE ALSO EXCELLENT. I WOULD LIKE TO STRESS THE IMPORTANCE OF MAKING THESE TWO DOCUMENTS MORE AVAILABLE TO THE GENERAL PUBLIC AND PUBLIC ORGANIZATIONS SUCH AS THE U.S. FOREST SERVICE. I HAD USED THE LIST OF PEOPLE AND ORGANIZATIONS RECEIVING THIS PUBLICATION AND FEEL THAT THIS IS TOO IMPORTANT AND THE STUDY RE. WELL DONE TO LIMIT IT TO THE PEOPLE LISTED IN THE BACK OF THE DEIS.

Comments on Alternatives: I PREFER ALTERNATIVE 3, AND ALTERNATIVE 2 WOULD BE MY SECOND CHOICE. I FEEL THAT I AM ONLY QUALIFIED TO COMMENT ON ALTERNATIVE 1 BECAUSE I HAVE ACQUIRED A SIGNIFICANT KNOWLEDGE OF THE NATIONAL FOREST SERVICE AND HAVE BEEN EXTENSIVELY INVOLVED IN THE FOREST SERVICE. I HAVE BEEN EXTENSIVELY INVOLVED IN THE FOREST SERVICE AND HAVE BEEN EXTENSIVELY INVOLVED IN THE FOREST SERVICE. I HAVE BEEN EXTENSIVELY INVOLVED IN THE FOREST SERVICE.

Why? I LIKE IT BECAUSE I WOULD LIKE TO SEE LESS CROWDING AND LESS USE IN TIMBERING/MINING ON THE NATIONAL FORESTS. I LIKE ALL ECHOES AND LESS ACCESS IS DISCOURAGED THAN IN D, F, G, H, AND BECAUSE THE BUCKS ARE USED IN VARIOUS METHODS OF VEGETATION CONTROL SUCH AS MECHANICAL AND OTHER FIRE ARE MORE EFFECTIVE THAN USE OF HERBICIDES. I WOULD LIKE TO SEE FIRE AND MECHANICAL METHODS USED ON THE AREAS USED OR RECOMMENDED WITH TO CONTROL FIRE. I WOULD LIKE TO SEE FIRE AND MECHANICAL METHODS USED ON THE AREAS USED OR RECOMMENDED WITH TO CONTROL FIRE. I WOULD LIKE TO SEE FIRE AND MECHANICAL METHODS USED ON THE AREAS USED OR RECOMMENDED WITH TO CONTROL FIRE.

To return this comment about, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

JAMES DAVID NAIS

THANK YOU

Name First M Last (Organization)
573 HUNTER TRAIL
Street
CLEVELAND, TN 37311
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 131

From: James David Mays

Comment No.

Response

- 1 The EIS will be available at all Forest Service offices, local libraries, and State universities.
- 2 Your preferences for alternatives B and E was included in the content analysis of all comment received as has your concern for herbicide effects on ground water. See response to comments in Letter No. 261, Comment No. 2; and Letter No. 281, Comment No. 7.
- 3 We were not able to address what species is adapted to which site in this document, rather what are the effects when using a particular method and tool. This issue is addressed in each of the Forest Land and Resource Management Plans. You may want to contact the Forest Service office in Cleveland concerning this issue.

USDA FOREST SERVICE
1720 PEACHTREE RD. N.W.
ATLANTA, GA. 30367

JAN. 15, 1989

SUBJECT: RESPONSE TO DIES, VEGETATION MANAGEMENT
IN THE APPALACHIAN MOUNTAINS, VOL 1
DATED NOVEMBER 28, 1988

DEAR MR. ALCOCK,

I HAVE REVIEWED THE SUBJECT DOCUMENT PAGE BY PAGE AND MUST
COMMEND YOU ON PRODUCING THE FINEST AND MOST COMPREHENSIVE
DOCUMENT EVER PUBLISHED BY THE FOREST SERVICE. CONGRATULATIONS!

IN FOLLOWING THE COMMENT FORMAT INDICATED ON THE ENCLOSED
RESPONSE FORM I WILL ADDRESS SCIENTIFIC ANALYSIS FIRST:

SCIENTIFIC ANALYSIS

THIS SUBJECT IS SOMEWHAT BEYOND MY AREA OF PERSONAL
KNOWLEDGE, BUT I FEEL THAT MOST ALL (IF NOT ALL) PERTINENT
INFORMATION APPLICABLE TO THIS TYPE OF DOCUMENT IS PRESENTED
ADEQUATELY FOR UNDERSTANDING BY THE GENERAL PUBLIC.

- 1 I AM CONFIDENT, THAT FOR PERSONS WITH A SPECIFIC INTEREST IN ANY
OF THE MORE SPECIALIZED AREAS, (HERBICIDES FOR INSTANCE), YOU CAN
SUPPORT YOUR POSITION WITH THE DATA USED TO PREPARE THE DEIS.

ALTERNATIVES

FIRST, I AGREE THAT THE PREFERRED ALTERNATIVE D IS BEST SUITED
FOR IMPLEMENTATION, IN AT LEAST THE SOUTHERN PORTION OF THE
APPALACHIAN MOUNTAINS.

THIS ALTERNATIVE APPEARS TO PROVIDE A BALANCED APPROACH TO
THE VERY DIFFICULT JOB OF MANAGEMENT OF THE NATIONAL FOREST BY
EVALUATING EACH METHOD OF VEGETATION MANAGEMENT BASED ON
COST, SAFETY, AND BENEFIT TO BOTH THE PUBLIC AND FOREST SERVICE
EMPLOYEES / CONTRACTORS.

Response to Comments in Letter No. 132

From: Charles A. Gowin

Comment No.

Response

- | | |
|---|---|
| 1 | The interdisciplinary team is pleased that you found the analysis well done and useful. |
|---|---|

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OTHER

(1) PAGE 111, COMMUNICATIONS, PAGE 1-6, PARA. F. 1 2 INADEQUATE

2 COMMUNICATION ---

YOU RECOGNIZE THE PROBLEM AND HAVE DONE AN EXCELLENT JOB TO CORRECT IT WITH THIS DOCUMENT, HOWEVER THE ISSUE REMAINS AS AN OPEN ITEM TO THE GENERAL PUBLIC. MORE WORK IS REQUIRED TO CORRECT THIS PROBLEM AND IT WILL NEVER BE COMPLETELY SATISFIED BUT BECAUSE YOU HAVE SELECTED ME TO BE ONE OF THE REVIEWERS, I CAN AND HAVE ALREADY USED KNOWLEDGE GAINED TO DISCUSS WITH MY FRIENDS AND OTHER INTERESTED PERSONS THE OBJECTIVES AND GOALS OF THE FOREST SERVICE MANAGEMENT PLANS.

THIS COMMENT IS GENERIC TO FOREST SERVICE PRACTICES AS PERCEIVED BY THE PUBLIC.

(2) PAGE 11-20, etc., PRESCRIBED FIRE

IN MY COMMENTS REQUESTED BY YOU IN JUNE 1987, I SUGGESTED THAT PRESCRIBED FIRE IS BOTH COST EFFECTIVE AND AN IMPORTANT TOOL FOR FOREST MANAGEMENT, BUT THAT IN ORDER FOR THE PUBLIC TO UNDERSTAND

3 AND ACCEPT IT AS A BENEFICIAL TOOL THEY NEEDED TO KNOW MORE ABOUT IT.

YOUR TREATMENT OF PRESCRIBED FIRE IN THIS DOCUMENT HAS EXCEEDED MY EXPECTATIONS !! NOW RECOMMEND THAT THE INFORMATION CONTAINED IN THE DEIS BE EXCERPTED FROM THE PLAN AND MADE AVAILABLE TO THE PUBLIC AS A PAMPHLET LIMITED TO THE SUBJECT AND DISTRIBUTED TO ALL FOREST SERVICE SUPERVISORS AND DISTRICT RANGERS FOR DISTRIBUTION TO THE GENERAL PUBLIC.

A PRECAUTIONARY CLAUSE MAY BE APPROPRIATE TO THE EFFECT THAT ANYONE PLANNING TO USE PRESCRIBED FIRE ON PRIVATELY OWNED LAND SHOULD DO SO ONLY WITH THE APPROVAL AND ASSISTANCE OF THEIR STATE OR LOCAL FOREST SERVICE

THE SAME COMMENTS APPLY TO THE USE OF HERBICIDES EXCEPT THAT I DO NOT THINK THAT THE GENERAL PUBLIC HAS THE EQUIPMENT OR KNOWLEDGE TO SAFELY HANDLE HERBICIDES AND THEIR USE SHOULD BE DISCOURAGED.

- 2 We agree. Specific responsibility for communication resides at all levels in the organization. Questions about specifics should be addressed at the lowest organizational level capable of that explanation.
- 3 We would like to extract and present selected data to the general public as funds are available.

(3) PAGE 11-78, TABLE 11-9, EFFECTS OF ALTERNATIVES ---

4 (TO YOUR DETERMENT) IN THAT IT APPEARS THAT NO VEGETATION MANAGEMENT WOULD BE PRACTICED. MY FIRST IMPRESSION WAS TO THINK THAT THIS AN UNACCEPTABLY HIGH COST JUST FOR THE PURPOSE OF MAINTAINING YOUR STAFF, OTHER EMPLOYEES, OFFICE SPACE, ETC.

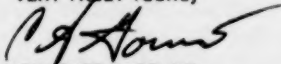
IT THEN OCCURRED TO ME THAT EVEN THOUGH THIS ALTERNATIVE INDICATES " NO ACTION", CONTINUING ACTION IS REQUIRED FOR GENERAL "HOUSEKEEPING "ACTIVITIES SUCH AS MAINTENANCE OF RANGER STATIONS, CAMP GROUNDS, TRAILS AND MINIMUM ROADWAY AND UTILITY LINES. I HOPE THAT YOU WILL ADDRESS THIS IN YOUR FINAL PLAN.

(4) PAGE IV-152, POSSIBLE CONFLICTS ---

THE LAST PARAGRAPH ON THIS PAGE BRINGS OUT A VERY IMPORTANT FACT THAT IS NOT GENERALLY RECOGNIZED BY THE PUBLIC AND THAT IS THAT THE FOREST SERVICE IS EXPECTED BY THE CONGRESS TO MANAGE THESE LANDS IN A BUSINESS LIKE MANNER, THEY ARE NOT PARKS ALTHOUGH THEY HAVE THE BEAUTY AND APPEAL OF A PARK LIKE ENVIRONMENT, IT IS NOT CONSISTENT WITH GOOD MANAGEMENT PRACTICE TO LET MERCHANTABLE TIMBER GO PAST ITS PRIME WITHOUT HARVESTING IT, WHICH IS EXACTLY WHAT WOULD HAPPEN IF THE BLUE SKY, DAISY SNIFFERS HAVE THEIR WAY.

KEEP UP THE FIGHT TO DO AS GOOD A MANAGEMENT JOB AS YOU ARE ABLE TO DO WITH THE RESOURCES AVAILABLE TO YOU. THE GENERAL PUBLIC IS VERY MUCH BEHIND YOU IN THIS EFFORT AND WANTS TO KEEP THE NATIONAL FOREST AS A NATIONAL FOREST, NOT A NATIONAL PARK.

VERY TRULY YOURS,



CHARLES A. GOWIN

RT. 1 BOX 60-A

ENGLEWOOD, TN. 37329

- 4 Table II-9 on page II-78 shows N/A for costs under alternative A. The \$31.47 per acre cost is for alternative B. A discussion of the effects of doing nothing in the "No Action" alternative is addressed on page IV-130 of the Draft EIS.

Year at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

- 1

Comments on Scientific Analysis: I wonder why the Grand Jury is asking for public comments when it has received the opinions voiced by the public a year ago.

Why? It is unthinkable that the Land Service would play on a board endorsed major plant at further risk by deliberately ignoring known to be unsafe.

Comments on Alternatives: *A suitable alternative should be*

- 2

Comments on Alternatives: ¹ Swales, ² ~~Swales~~ ³ ~~Swales~~ ⁴ ~~Swales~~ ⁵ ~~Swales~~ ⁶ ~~Swales~~ ⁷ ~~Swales~~ ⁸ ~~Swales~~ ⁹ ~~Swales~~ ¹⁰ ~~Swales~~ ¹¹ ~~Swales~~ ¹² ~~Swales~~ ¹³ ~~Swales~~ ¹⁴ ~~Swales~~ ¹⁵ ~~Swales~~ ¹⁶ ~~Swales~~ ¹⁷ ~~Swales~~ ¹⁸ ~~Swales~~ ¹⁹ ~~Swales~~ ²⁰ ~~Swales~~ ²¹ ~~Swales~~ ²² ~~Swales~~ ²³ ~~Swales~~ ²⁴ ~~Swales~~ ²⁵ ~~Swales~~ ²⁶ ~~Swales~~ ²⁷ ~~Swales~~ ²⁸ ~~Swales~~ ²⁹ ~~Swales~~ ³⁰ ~~Swales~~ ³¹ ~~Swales~~ ³² ~~Swales~~ ³³ ~~Swales~~ ³⁴ ~~Swales~~ ³⁵ ~~Swales~~ ³⁶ ~~Swales~~ ³⁷ ~~Swales~~ ³⁸ ~~Swales~~ ³⁹ ~~Swales~~ ⁴⁰ ~~Swales~~ ⁴¹ ~~Swales~~ ⁴² ~~Swales~~ ⁴³ ~~Swales~~ ⁴⁴ ~~Swales~~ ⁴⁵ ~~Swales~~ ⁴⁶ ~~Swales~~ ⁴⁷ ~~Swales~~ ⁴⁸ ~~Swales~~ ⁴⁹ ~~Swales~~ ⁵⁰ ~~Swales~~ ⁵¹ ~~Swales~~ ⁵² ~~Swales~~ ⁵³ ~~Swales~~ ⁵⁴ ~~Swales~~ ⁵⁵ ~~Swales~~ ⁵⁶ ~~Swales~~ ⁵⁷ ~~Swales~~ ⁵⁸ ~~Swales~~ ⁵⁹ ~~Swales~~ ⁶⁰ ~~Swales~~ ⁶¹ ~~Swales~~ ⁶² ~~Swales~~ ⁶³ ~~Swales~~ ⁶⁴ ~~Swales~~ ⁶⁵ ~~Swales~~ ⁶⁶ ~~Swales~~ ⁶⁷ ~~Swales~~ ⁶⁸ ~~Swales~~ ⁶⁹ ~~Swales~~ ⁷⁰ ~~Swales~~ ⁷¹ ~~Swales~~ ⁷² ~~Swales~~ ⁷³ ~~Swales~~ ⁷⁴ ~~Swales~~ ⁷⁵ ~~Swales~~ ⁷⁶ ~~Swales~~ ⁷⁷ ~~Swales~~ ⁷⁸ ~~Swales~~ ⁷⁹ ~~Swales~~ ⁸⁰ ~~Swales~~ ⁸¹ ~~Swales~~ ⁸² ~~Swales~~ ⁸³ ~~Swales~~ ⁸⁴ ~~Swales~~ ⁸⁵ ~~Swales~~ ⁸⁶ ~~Swales~~ ⁸⁷ ~~Swales~~ ⁸⁸ ~~Swales~~ ⁸⁹ ~~Swales~~ ⁹⁰ ~~Swales~~ ⁹¹ ~~Swales~~ ⁹² ~~Swales~~ ⁹³ ~~Swales~~ ⁹⁴ ~~Swales~~ ⁹⁵ ~~Swales~~ ⁹⁶ ~~Swales~~ ⁹⁷ ~~Swales~~ ⁹⁸ ~~Swales~~ ⁹⁹ ~~Swales~~ ¹⁰⁰ ~~Swales~~ ¹⁰¹ ~~Swales~~ ¹⁰² ~~Swales~~ ¹⁰³ ~~Swales~~ ¹⁰⁴ ~~Swales~~ ¹⁰⁵ ~~Swales~~ ¹⁰⁶ ~~Swales~~ ¹⁰⁷ ~~Swales~~ ¹⁰⁸ ~~Swales~~ ¹⁰⁹ ~~Swales~~ ¹¹⁰ ~~Swales~~ ¹¹¹ ~~Swales~~ ¹¹² ~~Swales~~ ¹¹³ ~~Swales~~ ¹¹⁴ ~~Swales~~ ¹¹⁵ ~~Swales~~ ¹¹⁶ ~~Swales~~ ¹¹⁷ ~~Swales~~ ¹¹⁸ ~~Swales~~ ¹¹⁹ ~~Swales~~ ¹²⁰ ~~Swales~~ ¹²¹ ~~Swales~~ ¹²² ~~Swales~~ ¹²³ ~~Swales~~ ¹²⁴ ~~Swales~~ ¹²⁵ ~~Swales~~ ¹²⁶ ~~Swales~~ ¹²⁷ ~~Swales~~ ¹²⁸ ~~Swales~~ ¹²⁹ ~~Swales~~ ¹³⁰ ~~Swales~~ ¹³¹ ~~Swales~~ ¹³² ~~Swales~~ ¹³³ ~~Swales~~ ¹³⁴ ~~Swales~~ ¹³⁵ ~~Swales~~ ¹³⁶ ~~Swales~~ ¹³⁷ ~~Swales~~ ¹³⁸ ~~Swales~~ ¹³⁹ ~~Swales~~ ¹⁴⁰ ~~Swales~~ ¹⁴¹ ~~Swales~~ ¹⁴² ~~Swales~~ ¹⁴³ ~~Swales~~ ¹⁴⁴ ~~Swales~~ ¹⁴⁵ ~~Swales~~ ¹⁴⁶ ~~Swales~~ ¹⁴⁷ ~~Swales~~ ¹⁴⁸ ~~Swales~~ ¹⁴⁹ ~~Swales~~ ¹⁵⁰ ~~Swales~~ ¹⁵¹ ~~Swales~~ ¹⁵² ~~Swales~~ ¹⁵³ ~~Swales~~ ¹⁵⁴ ~~Swales~~ ¹⁵⁵ ~~Swales~~ ¹⁵⁶ ~~Swales~~ ¹⁵⁷ ~~Swales~~ ¹⁵⁸ ~~Swales~~ ¹⁵⁹ ~~Swales~~ ¹⁶⁰ ~~Swales~~ ¹⁶¹ ~~Swales~~ ¹⁶² ~~Swales~~ ¹⁶³ ~~Swales~~ ¹⁶⁴ ~~Swales~~ ¹⁶⁵ ~~Swales~~ ¹⁶⁶ ~~Swales~~ ¹⁶⁷ ~~Swales~~ ¹⁶⁸ ~~Swales~~ ¹⁶⁹ ~~Swales~~ ¹⁷⁰ ~~Swales~~ ¹⁷¹ ~~Swales~~ ¹⁷² ~~Swales~~ ¹⁷³ ~~Swales~~ ¹⁷⁴ ~~Swales~~ ¹⁷⁵ ~~Swales~~ ¹⁷⁶ ~~Swales~~ ¹⁷⁷ ~~Swales~~ ¹⁷⁸ ~~Swales~~ ¹⁷⁹ ~~Swales~~ ¹⁸⁰ ~~Swales~~ ¹⁸¹ ~~Swales~~ ¹⁸² ~~Swales~~ ¹⁸³ ~~Swales~~ ¹⁸⁴ ~~Swales~~ ¹⁸⁵ ~~Swales~~ ¹⁸⁶ ~~Swales~~ ¹⁸⁷ ~~Swales~~ ¹⁸⁸ ~~Swales~~ ¹⁸⁹ ~~Swales~~ ¹⁹⁰ ~~Swales~~ ¹⁹¹ ~~Swales~~ ¹⁹² ~~Swales~~ ¹⁹³ ~~Swales~~ ¹⁹⁴ ~~Swales~~ ¹⁹⁵ ~~Swales~~ ¹⁹⁶ ~~Swales~~ ¹⁹⁷ ~~Swales~~ ¹⁹⁸ ~~Swales~~ ¹⁹⁹ ~~Swales~~ ²⁰⁰ ~~Swales~~ ²⁰¹ ~~Swales~~ ²⁰² ~~Swales~~ ²⁰³ ~~Swales~~ ²⁰⁴ ~~Swales~~ ²⁰⁵ ~~Swales~~ ²⁰⁶ ~~Swales~~ ²⁰⁷ ~~Swales~~ ²⁰⁸ ~~Swales~~ ²⁰⁹ ~~Swales~~ ²¹⁰ ~~Swales~~ ²¹¹ ~~Swales~~ ²¹² ~~Swales~~ ²¹³ ~~Swales~~ ²¹⁴ ~~Swales~~ ²¹⁵ ~~Swales~~ ²¹⁶ ~~Swales~~ ²¹⁷ ~~Swales~~ ²¹⁸ ~~Swales~~ ²¹⁹ ~~Swales~~ ²²⁰ ~~Swales~~ ²²¹ ~~Swales~~ ²²² ~~Swales~~ ²²³ ~~Swales~~ ²²⁴ ~~Swales~~ ²²⁵ ~~Swales~~ ²²⁶ ~~Swales~~ ²²⁷ ~~Swales~~ ²²⁸ ~~Swales~~ ²²⁹ ~~Swales~~ ²³⁰ ~~Swales~~ ²³¹ ~~Swales~~ ²³² ~~Swales~~ ²³³ ~~Swales~~ ²³⁴ ~~Swales~~ ²³⁵ ~~Swales~~ ²³⁶ ~~Swales~~ ²³⁷ ~~Swales~~ ²³⁸ ~~Swales~~ ²³⁹ ~~Swales~~ ²⁴⁰ ~~Swales~~ ²⁴¹ ~~Swales~~ ²⁴² ~~Swales~~ ²⁴³ ~~Swales~~ ²⁴⁴ ~~Swales~~ ²⁴⁵ ~~Swales~~ ²⁴⁶ ~~Swales~~ ²⁴⁷ ~~Swales~~

- 3

W.V. was one of the first to provide nuclear safety
for the people who lived for, provide minimum
benefit to him and his family and the environment

Other French language teachers are Commission in setting
environmental issues. It would be a main regulation
for the teachers employ a labor in our schools
to make a great number of dollars into our school.
Why? Teachers who have already invested their
indifference for the Government.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Jeanne P. Dorschak
 Name First MI Last (Organization)
 Box 12 Route 2
 Street
 Leicester NC 27545
 City State Zip Code

Year at perforation

Response to Comments in Letter No. 137

From: Jeanne B. Doerschuk

Comment No.

Response

1 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

2 Your preference for an alternative somewhere between F and G was included in the content analysis of all comments received. In the Final EIS, alternative "Modified E" (similar to commenter's suggestion) that has reduced fire and herbicide was developed, analyzed, and is described in chapter II. It is compared with other alternatives in section G of chapter II and section H of chapter IV in the Final EIS.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

3 Relative to employment, please see response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?**Comments on Scientific Analysis:**

1 THE MATERIAL REPCS CLEARLY FOR SUCH A
COMPLEX DOCUMENT. OVERALL IT LOOKS REAL GOOD
& PROFESSIONALLY DONE -- GOOD JOB.

Why?

Comments on Alternatives:

Why?

VOLI EDIT:
Other: P.II-31 CAPTION "CATTLE" IS A BIOLOGICAL ERROR. IT
SHOULD BE "WATERBULL" NOT CATTLE IN WATER. IT IS THE
FIGURE WITHIN FIGURES ARE SHOWN.

2 P.II-31 IN THE CAPTION OF THE CHARTER, YOU SPECIFICALLY
DESCRIBE IT AS A "POWER HAND TOOL - CIMPANSE" BUT
WITH THE BRUSH TOOL, BRUSHMAN YOU APPROPRIATELY
LABEL THEM. WHY NOT JUST PUT "CIMPANSE" & LEAVE OFF
"THE POWERED HAND TOOL"?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

JACK A MUNKY TPA
Name: First MI Last Organization
NATHAN RESOURCES BUILDING
Street
NORFOLK TN 37429
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 138

From: Jack A. Muncy

Comment No.

Response

- | | |
|---|---|
| 1 | The interdisciplinary team is pleased that you found the analysis well done and useful. |
| 2 | Suggested changes have been made in response to these comments. |

26 Fairmont Road
Asheville, NC 28804
15 January 1989

USDA Forest Service
1720 Peachtree Street
Atlanta, GA 30367

Dear Sirs:

I am writing in response to your Draft Environmental Impact Statement on Vegetative Management in the Appalachian Mountains.

1 I am extremely concerned about the use of herbicides called for in your preferred alternative D. Due to the documented health risks of herbicide use, the potential health risks that can never be known with certainty until it's too late, and the high potential for contamination of ground water and surface water, I strongly recommend that you eliminate the use of herbicides entirely. In the Southern Appalachians, it would be more appropriate to rely primarily on fire, manual methods, and grazing for vegetative management.

Prescribed burning more closely mimics the natural pattern of vegetative control. It was the method used by the early settlers of the southern mountains as well as by Native Americans. Thus, the long term effects of fire on forest ecology are well known, in contrast to the many unknowns associated with the long term use of poisonous herbicides.

2 Manual vegetative management would provide jobs and income to depressed local economies as well as giving local people training and hands-on experience in forest management. The effects of this approach on the forest and on the local economy were demonstrated 50 years ago with the work of the Civilian Conservation Corps. The effects of herbicide use are to pollute our environment and siphon our tax dollars into the coffers of giant chemical corporations with no concern for the environmental effects of their actions.

3 Grazing by cows, while better than herbicide use, is not really appropriate for the maintenance of mountain belts in the Southern Appalachians. I suggest that the Forest Service, in cooperation with the U.S. Fish and Wildlife Service and the N.C. Wildlife Resources Commission look into the possibility of reintroducing elk to bald areas such as Roan Mountain, Shining Rock Wilderness, and some areas of the Smokies. Native wildlife would be far superior to domestic cattle for maintaining our mountain belts.

Sincerely,

Budford G. Stanback

Budford G. Stanback

cc: Representative James Clarke
Senator Terry Sanford
Charles Fulkwood, NC Wildlife Resources Commission
Walton Smith, Western North Carolina Alliance

Response to Comments in Letter No. 139

From: Bradford G. Stanback

Comment No.

Response

- 1 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Please see response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3.
- 3 The suggestion of introducing elk for bald management is beyond the scope of this EIS. Many grassy balds were maintained by livestock grazing in the past (Draft EIS page III-16).

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Too many gaps exist in your knowledge of herbicides.

1

Why? Because you have no idea what effect it will have on people's health now or in the future. Besides, herbicides wash down into streams, polluting the water, and killing the fish.

Comments on Alternatives: You should use more manual and mechanical labor.

2

Why? This would get the job done and give jobs to a lot of people who need them. Take the money you pay for the high priced herbicides and pay the laborers and everyone would be better off.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Clarence C. Hall, Box Jackson County
 Name First MI Last (Organization) (Agency) (Address)
 142 Box 167
 Street
 Sylva NC 28779
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 163

From: Clarence C. Hall

Comment No.

Response

- 1 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. Please note the limited number of herbicides permitted (only 8) and the strict mitigations required when they are used. Using these mitigations, risk of herbicides polluting surface and ground water is minimal (Draft EIS pages IV-99 to IV-106).

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Please see response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 1.

Sylva, N.C.
Jan. 19, 1989

Dear Sir:

I am interested in the Forest for a lot of reasons. I have lived in the mountains all my life. I love to hunt and fish. But I am afraid if you continue to manage the forest as you are now our children and grandchildren will have no where to hunt, no oak, hickory, etc. There will be no oaks, hickory or other mast bearing trees. If there is no mast there will be no bear, squirrel, turkey or other animals to hunt for.

I know vegetation has to be controlled but I would suggest that you use little or no herbicides, maybe 5%. Use mostly manual 45% and mechanical labor 45%. This would give a lot of people much needed jobs. Maybe 2% grazing and 5% fire, only as a last resort. I am concerned about herbicides polluting the streams and underground water. Our environment has enough problems without adding to them by using a lot of chemicals and herbicides. You also do not have enough data concerning the results of exposure to these chemicals and herbicides. They could cause very adverse effects on the health of humans and animals in the future. I believe you need to do some serious thinking about your alternatives.

About 30 or 35 years ago the Forest Service used a spring-loaded ax, filled with herbicides, and poisoned a lot of Oak, Hickory and other species of trees. Also all the wild grape-vines. Just last year they admitted this had been a mistake. Now clear cutting (and even more use of herbicides) has been introduced, but not proven. What happens in another 30 years when they decide clear cutting is also a mistake? It will be too late then because all the good timber will be gone. We need some clear cutting maybe where a wild fire has been, or a stand of trees are killed by beetles, etc. Don't get me wrong I'm not against timber cutting or timber sales but I am very much against the way it is done. More selective cutting would be better all around. It would benefit everyone and everything concerned. I would also like to see the timber sales sites cleaned up better. Fifty per-cent of pulp wood sales are left to rot on the ground. I would also like to see a profit from the Forest Service timber sales. It was done in the 1950's and 60's and I think it could be done again.

Remember this is supposed to be our forest. It belongs to the people, you, me and everyone else. You are supposed to be working for the good of the people so I think you should stop and consider what they want. It should be used as an all-purpose forest; timber, water, recreation, wildlife, etc. I would like to see some recreation areas fixed. Also I would like to see some of the high priced roads (that our tax money pays for) opened at certain times of the year, especially during the color season which is really beautiful here in the Southwest Mts.

I am anxiously awaiting your reply to this letter, then I will know that it was read and not thrown in the trash.

I am respectfully yours.

Clarence C. Hall

Clarence C. Hall
Pres. Jackson County Chapter, YMWCA
Route 2 Box 107
Sylva, N.C. 28779

- 3 The issues of clearcutting and road building are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest.
- 4 Please see response to comments in Letter No. 41, Comment No. 1.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1

EXCELLENT JOB
THIS IS ONE OF THE BEST JOBS OF ENVIRONMENTAL ANALYSIS
I HAVE EVER SEEN.

Why? COVERS ALL MAJOR POINTS

Comments on Alternatives:

I LIKE ALTERNATIVE D OR PREFERRED.

Why? IT BEST MEETS THE NEEDS AND
REQUIREMENTS OF VEGETATIVE MANAGEMENT
IN THE NATIONAL FORESTS.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

JERRY L. JACOBSEN
Name First MI Last (Organization)
J.L. Bix JC
Street
NATIONAL BRIDGE STATION, VA 24579
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 164

From: Jerry L. Jacobsen

Comment No.

Response

- | | |
|---|---|
| 1 | The interdisciplinary team is pleased that you found the analysis well done and useful. |
|---|---|

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

ENVIRONMENTAL PROBLEMS OF THE WORLD TODAY ARE MOST
IMPORTANT & HAVE TO BE DEALT WITH SENSIBLY & RATIONALLY.

Why?

OUR FOREST ARE BEING RAISED BY ACID RAIN, DEFORESTATION,
INSECT EPIDEMICS & GLOBAL WARMING.

Comments on Alternatives:

THE ALTERNATIVES ARE NOT SUITABLE.

MUCH LESS HERBICIDE & BURNING - MUCH MORE MECHANICAL &
MANUAL METHODS SHOULD BE USED

Why?

BURNING & HERBICIDE ARE SHORT TERM METHODS BUT ARE
DISASTROUS OVER LONG PERIODS OF TIME. THE DAMAGE THEY
DO WILL EXACERBATE OUR PROBLEMS.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

EARL J. WILLIAMS - WNCADAWANCE

Name First MI Last (Organization)

121 RIVER RD

Street

FRANKLIN NC 28734

City

State

Zip Code

← Tear at perforation

response to Comments in Letter No. 165

from: Earle D. Williams

Comment No.

Response

1

Your preference for alternative E was included in the content analysis of all comments received. Please see response to comments in letter No. 281, Comment No. 7.

An alternative as you suggest (alternative I) was developed and is displayed in chapter II of the Final EIS. Its comparison with other alternatives is discussed in section G of chapter II and summarized in section N of chapter IV.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Reproduced from poor document.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

OUR WORLD IS FACING VAST ENVIRONMENTAL PROBLEMS: ACID RAIN, DEFURIGATION, GLOBAL WARMING, ENDANGERING ANIMALS TO MENTION A FEW.

Why?

Comments on Alternatives:

IN THE EIS, YOU DISCUSS THE DANGERS OF HERBICIDES, BUT YET YOU CHOSE ALTERNATIVE D WHICH HAS 26.3 PERCENT OF HERBICIDES. THERE IS ALSO CONCERN ABOUT PREScribed FIRE IN HERBWOOD STANDS, BUT YOU HAVE 37.1 PERCENT IN YOUR ALTERNATIVE D

YOU HAVE NOT OFFERED A Satisfactory ALTERNATIVE. IT SHOULD BE VERY LOW ON HERBICIDES & PREScribed FIRE. HIGH ON MECHANICAL? ALTHOUGH THIS WOULD BE THE JOB DONE, PRODUCE JOBS, BE WHAT PEOPLE WANT WITH MINIMUM DANGER TO ANIMAL PEOPLE & THE ENVIRONMENT

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

EARLE D WILLIAMS WMA

Name First MI Last Organization

121 BAKER RD

Street

FRANKLIN NC 28732

City

State

Zip Code

Tear at perforation

2 Please see response to comments in Letter No. 57, Comment No. 3.

Dear Forest Service,

This letter is a response to your draft environmental impact Statement on Vegetative management in the Appalachian Mts.

- 1 As with your 10-year plan, you have asked for public opinion and already received a clear mandate regarding our preferences: We don't like or want clear cutting, and according to the draft, "The order of preference for methods [of vegetation management] to be used was Manual, mechanical, prescribed fire, and herbicides." So why is "preferred method D," do Fire and Herbicides account for over 63% of the treatment? Who are you listening to?

- 2 Even Time Magazine is aware that the world faces an enormous environmental crisis today, brought on by human hair flagrant abuse/misuse of chemicals and equally flagrant disregard of the needs of our Earth and her ecosystems. The Forest Service should be in the forefront of fighting battles against environmental damage, not introducing poisons to contaminate our water supplies and food chains of wild life, or adding to air pollution by burning poisonous trees (poison to me, unknown not to you).

- 3 Ideally, I would like to see the use of herbicides as a fire in your management program. I know this is not likely. So how about allowing the chemical corporations the same cut you offered to cars? Keep it below 28. That may sound flippant, but I

Response to Comments in Letter No. 166

by Louise Langsner

Comment No.	Response
1	Please see response to comments in Letter No. 41, Comment No. 1.
2	Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
3	Your concerns about herbicides and fire have been included in the content analysis of all comments received. Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85). Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be mowed or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian National forests. The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

2

are deadly serious. I think one of the greatest threats to life on Earth are these chemicals we fling about so casually and that we understand so poorly. And then we always present it as an economy - saving time and money. Who ever figures in the cost of poison air and poison water?

- 4 People in the Southern Appalachians want to protect their air, their water, and their forests. People here need jobs. So why can't the FS give them work and at the same time manage the forest with minimum danger to humans, animals, and environment? We must learn that these goals are compatible. Manage the forest if you must, but do it with respect for the health of the Earth.

I hope that you can hear our voices.

Sincerely,

Louise Langman

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Appalachians. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-121 to IV-122).

4

Please see response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.

Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Response to DEIS: Vegetation Mgt. in the Appalachian Mountains - U.S.F.S. 11/87

Comments on Scientific Analysis:

Data on herbicides in DEIS are inconclusive to the point that the scientific validity in their use is seriously lacking. The environmental consequences could be devastating at various trophic levels including human consumption.

Why? The movement of these SOC (Synthetic Organic Chemicals) into ground/surface waters can be devastating to drinking water supplies.

Comments on Alternatives:

1 If you must use chemical for management of vegetation - though I am opposed to use of SOC - then a suitable alternative would be somewhere between F-C of DEIS.

Why? *[signature]*

2 Other: You should take this money and use it for R/D of alternatives to use in forest management. This has proved to be the least environmentally impact on natural ecosystems and their ecological ecological parts.

Why? *[signature]*

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: BENJAMIN B. BARNETT (Organization)

11 FOREST HILL DRIVE

Street: SAVANNAH NORTH CAROLINA 27578

City

State

Zip Code

Tear at perforation

[signature]
Tara of Carter - Carter, NC 28716

Response to Comments in Letter No. 167

From: Dr. Garrett A. Smathers

Comment No.

Response

- 1 Your concern about the use of synthetic organic chemicals has been included in the content analysis of all comments received as has your preference for an alternative somewhere between F and C. Please see response to comments in Letter No. 522, Comment No. 1.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-58-65 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment. In the Final EIS an additional mitigation has been added to chapter II that requires that class B and C (table II-1) herbicides can only be used with Regional Forester approval.
- 2 We agree that at many times mechanical and biological methods may be the best technique. However, based on site characteristics and species biological requirements, herbicides, prescribed fire, or manual methods may better achieve some project objectives. Site-specific analysis (described in mitigation measure number 1 on page II-44 of the Draft EIS) will determine appropriate techniques and intensity of their application for each project and will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides.

Dear People in Forest Service,

Do NOT - Do NOT increase
Herbicide spraying to control
vegetation in our Parks and
Forests!

This is a great tragedy and
mortal offense to Nature, Our
1 Planet, and the rest of humankind,
as well as the flora & fauna that
will be affected?

Don't you KNOW Not to
fool with Mother Nature? What
do you people need to have
happen that will OPEN your
eyes! Do we all die first?
Then it's too late.

Hester F. Clifford

You Have
No Right to do this
to US - all of living things!

Response to Comments in Letter No. 168

From: William R. Miller

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. See also response to comments in Letter No. 1; and Letter No. 166, Comment No. 2.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Also see response to comments in Letter No. 256, Comment No. 1.

January 21, 1989

USDA Forest Service
1720 Peachtree RD, N.W.
Atlanta, GA.
30367

Dear Sir:

I would like to response to your "Draft Environmental Impact Statement." with this letter.

1 I find most of you Scientific Analysis incomplete your studies alone on just 2,4-D and on 2,4-DP and I quote "have indicated both positive and negative mutagenic Potential. EPA has requested more mutagenicity test information for both of these compounds." (Volume 2, page 5-46) You don't have all the facts in, and you are still using it. That is very unsound judgement.

Your image of the keeper of the forest is fading. Let me back up a few years if I may, back to 1967, Vietnam, Agent Orange, Blue, White, and Names like, "Sherwood Forest" and "Project Pink Rose". "Pink Rose was to be a full scale test with 7 Air Force coordinating the efforts of the U.S. FOREST SERVICE PERSONNEL, Ranch Hand crews and SAC B-52 Arc light forces station in Guam." (Information from Joe Cole of Washington State, Book name "What's Evidence") This is only a few of the Agents used in Vietnam.

2 You folks did not wait for all the test information on 2,4-D and 2,4,5-T, with 2,3,7,8 TCDD Dioxin, not to mention Picloram and the Vietnam Veterans are still paying with their lives, because, you along with the United States Government thought it was safe, so safe that you went ahead and used it here in the United States (Enclosed is a copy of a few pages out of the North Carolina State Forestry Handbook for 1974)

3 Twenty two years has pass since 1967 and your studies are still not complete. As a citizen of the United States I ask why? Just because a produce is cheaper to use, does not make it safe. But, with incomplete studies it does hide the risk factor but not the responsibility of the action you are taking with human life.

Response to Comments in Letter No. 169

From: Allen C. LoBeau

Comment No.

Response

- 1 Please read mitigation number 7 (page II-59 of the Draft EIS) which was designed specifically to favor herbicides with lower health risk over those which contain uncertainty or somewhat greater risk. Use of 2,4-D, 2,4-DP, and tebuthiuron are essentially eliminated by this mitigation measure. This mitigation (renumbered as 3 in the Final EIS) has been strengthened to read:

(3) Herbicides and application methods are chosen to minimize risk to human and wildlife health and the environment. No class B, C, or D chemical (table II-1) may be used on any project, except with Regional Forester approval. Approval will be granted only if a site-specific analysis shows that no other treatment would be effective and that all adverse health and environmental effects will be fully mitigated. Whenever possible and effective, class 4 or 5 mineral oil is used in place of diesel oil in mixtures for application. This measure applies only to alternatives B, D, E, G, I, and Modified D.

- 2 Please refer to several more recent analyses of the cited products. As examples - Dr. Abbe Ottoboni's excellent and very readable "The Dose Makes The Poison"; the March 23, 1988 Federal Register article on 2,4-D products (Federal Register 53:9590-9594); the July 24, 1987 Centers for Disease Control article on serum dioxin in Vietnam area veterans (Morbidity and Mortality Weekly Report 36(28):470-475; the March 18, 1988 Journal of the American Medical Association (10-year review of the Seveso, Italy dioxin incident; the Bond, Bodner, and Cook article on phenoxy herbicides and cancer (Fundamental and Applied Technology 12:172-188; 1989); and, also, the article "Unmasking Agent Orange" by Gary Taubes published in the April 1988 Discover (pages 42-48). Also please see the less objective but clearly written "Toxic Terror" by Dr. Elizabeth Whelan (Jamestown Books, Ottawa, Ill.; 1985).

- 3 Allowing the use of herbicides is based on evidence in the EIS which indicates that low risk use of selected herbicides is possible when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data itself supports the position that herbicides can be used with minimal risk when mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

4 I would like to say a few words on "Sensitive Individuals" (Volume 2, page 5-51), The "levels of concern" place on dioxin by the EPA and the CDC as 1 part per billion, was not done out of safety. It was done because one part per trillion, show that this country of our was contaminated with dioxin. It is therefore quite possible, along with the Vietnam Veterans back from Vietnam an other bases around the world that used "Agent Orange", or what you call "Esteron" and the people of "Time Beach", "Love Canal", Farmers, and so forth are very "Sensitive Individuals" that you must take account of in your studies. I know myself I do not wish ever to come in contact with any of the herbicides that you are using at present. You maybe willing to risk my life with your cheap methods of doing things, but I am not.

5 As far as which "Alternative" I preferred, it is either "A" or "P". But, Alternative "P" isn't so bad it is safer for the people, and over all cheaper. With proper training you can cut down on the accidents that tend to come with manual labor. But, at the very least when a worker is healing from a cut he knows how to treat it and that he will live, with herbicides it's a whole difference story.

6 I would like to also see you quit "Clear Cutting" and perhaps if we took away your herbicides you would, then you could go back as being the keeper of the forest and not public enemy number one.

Enclosed is some information for you to read.

Sincerely,

Allen C. LoBean

Allen C. LoBean

Allen C. LoBean
Rt. 2 Box 2335-B
Clayton, Ga.
30525

- 4 Please see response to comment number 2 which lists current scientific literature relating to dioxins. This literature indicates that public understanding of dioxin risk may be overstated.
- 5 Your preference for alternative A or F was included in the content analysis of all comments received. Also please see response to comments in Letter No. 522, Comment No. 1; and Letter No. 261, Comment No. 2.
- 6 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plan of each National Forest.

Response to the Environmental Impact Statement
Concerning Vegetation Management in Southern Forests

Comment on Scientific Analysis: Seems good to me especially if length is any indication of quality work.

Comments on Alternatives:

- 1 I agree with the choice of D as the best alternative except for the use of herbicides. 34,280 acres/year treated with various herbicides is a tremendous area. 900 acres treated with aerial application is extra large considering the miles in narrow strips that would be exposed directly and on the periphery of the right-of-ways because of drift.

- 2 It seems to me about half of the EIS is spent trying to justify the use of chemicals that might be or are detrimental to soil, water, wildlife, plants. The best way to solve the problem would be not to use herbicides except in very limited areas. Forests have grown well for many years without the addition of poisons. I suggest we do not use them now.

I appreciate your complete coverage in getting and asking citizen input. Thank you for including me.

Cordially,

Grace Foster

Grace Foster

110 Dale Road, Box 416
Morris, TN 37828
January 20, 1989

6 U.S. Forest Service
1720 Peachtree Rd. N.W.
Atlanta, GA 30367

Drop AM
attn: Room 3625

Response to Comments in Letter No. 120

From: Grace Foster

Comment No.	Response
1	The interdisciplinary team is pleased that you found the analysis well done and useful. In the Final EIS we have reduced the acres of major utility lines to 400 acres. Aerial will be restricted to rugged, mountainous, uninhabited terrain where other methods such as mowing or hand tools are not practical.
2	The EIS does not attempt to justify the use of herbicides. It discloses the results of scientific analysis to permit us to make an informed decision about all of the tools proposed for use in vegetation management. There is a tremendous amount of data available concerning herbicides, and so the herbicide summary is the largest section of the EIS. See also response to comments in Letter No. 139, Comment No. 1.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

good

Why? *very detailed - perhaps too detailed.*

Comments on Alternatives:

Agree with alternative (D) preferred.

Why? *Alternative is versatile - with a good range of options available for managing different land areas. It is well balanced and not favoring any one type of treatment.*

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name First MI Last (Organization)

Street

City

State

Zip Code

← Tear at perforation

Response to Comments in Letter No. 172

From: Unknown

Comment No.

Response

- | Comment No. | Response |
|-------------|---|
| 1 | The interdisciplinary team is pleased that you found the analysis well done and useful. |

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: The scientific analysis appeared to be thorough, balanced and comprehensive. The risk assessment for herbicides seemed to be particularly well done.

Why?

Comments on Alternatives: Generally I support ^{fire, herbicides} Alternative D, particularly where the use of more cost-efficient methods are increased. This may release money for other vital needs (maintenance of research facilities, provision of ranger, protection, endangered species). I can Why? support even more use of fire, as it seems to have many ecosystem benefits.

Other: It is important to have large contiguous areas of old-growth forest. Many important species rely on the habitat and large areas are necessary to preserve genetically-viable populations.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Todd C. Folsom, Ph.D.
 Name First MI Last (Organization)
 1514 Smith Court W.
 Street
 Morgantown, NC 28115
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 123

From: Dr. Todd C. Folsom

Comment No.

Response

- | Comment No. | Response |
|-------------|--|
| 1 | The interdisciplinary team is pleased that you found the analysis in the EIS and especially in the Risk Assessment well done and useful. |

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

- 1 I have read that Cornell University research proves that only one percent of sprayed chemicals actually contact the target intended. Entomologist David Diamond determined that under the best conditions, no chemical dropped from an aircraft moves then target 50% of the time. With aerial spraying of forests, 80-90% of the ~~chemical~~ spray made up of target.

- 2 Some consideration of the effects of the rapidly growing population and tourism on the area and decreasing annual rainfall would be given. Planning for fire control and elimination of chemical dumping on watershed streams more critical. Tanya times and hard decisions appear to be ahead.

Comments on Alternatives:

- 3 Alternative "B" might be reasonable. How do we feel reduction might become of greater importance, especially in timber zone?

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

James A Collins
Name First MI Last (Organization)
RT 11 Box 154
Street
Hendersonville, N.C. 28739
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 174

From: James A. Collins

Comment No.

Response

1 The EIS does not underestimate these risks. Drift potential is highest with aerial application where in proposed use is approximately 400 acres throughout the Southern Appalachian Mountains. Drift is sharply reduced by using large-droplet nozzles instead of the fine-droplet nozzles studied in the past. Mitigation measure number 15 on page II-51 and number 25 on page II-53 of the Draft EIS reduce drift by requiring that large-droplet nozzles be used during favorable weather. They further reduce drift effects by requiring buffers and a screening process that favors least-risk herbicides. These factors were all considered in our detailed analysis of effects on humans (appendix A, section 4), wildlife (appendix A, section 7), and water (EIS section IV.G.1). Our situation (applying herbicides as large droplets to static vegetation) is far different from that in Pimentel's paper (applying insecticides as fine droplets to flying insects).

2 The various social concerns you mention were included in our analyses. Herbicide use in watersheds is heavily mitigated (pages II-64 and II-65 in the Draft EIS, mitigation measure numbers 28-33) to protect these very sensitive resources.

3 Your preference for alternative B was included in the content analysis of all comments received. Alternative B may be more favorable in some respects. However, it also has effects which are considered unfavorable by other commenters. The effects of all alternatives are summarized in part H of chapter II.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: THE SCIENTIFIC ANALYSIS WAS INCOMPLETE AND TOTALLY INADEQUATE AS IT MADE AN ASSESSMENT OF THE OVERALL STATE OF THE FOREST IN LIGHT OF GENERAL TOXIC EFFECTS FROM HUMAN-CAUSED POLLUTION, WHICH ARE ~~VERY~~ SEVERE.

THE FOREST SERVICE SHOULD BE INSTITUTING MEASURES TO CONTROL THIS POLLUTION, PERHAPS EVEN CENTRALIZING KNOWN CORPORATE POLLUTERS (SUCH AS TVA AND DOE AT OAK RIDGE) TO ~~Comments on Alternatives~~ URGE THEM TO CUT BACK ON TOXIC EMISSIONS. THE FOREST SERVICE SHOULD ALSO BE WORKING THROUGH CINCINNATI TO CONTROL AIR-BORNE POLLUTION ON BEHALF OF THE APALACHIAN NATIONAL FORESTS, WHICH HAVE BECOME SEVERELY DEGRADED.

~~UNLESS~~ UNTIL THESE INADEQUACIES HAVE BEEN RECTIFIED I WOULD HAVE TO SAY THAT "ALTERNATIVE A" - NO TREATMENT - IS THE ALTERNATIVE INDICATED AS BEST FOR THE NATIONAL FOREST UNTIL SUCH TIME AS THE FOREST SERVICE CAN ~~BRING~~ COME UP WITH AN ALTERNATIVE THAT IS PROVEN SAFE AND BENEFICIAL TO THE NATIONAL FORESTS AS A WHOLE.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

DAVID WHEELER

Name: First MI Last (Organization)

ST. LOUIS, MO

Street:

KIMBLE, AVE 28787

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 125

From: David Wheeler

Comment No.

Response

- | Comment No. | Response |
|-------------|---|
| 1 | Global pollution is beyond the scope of this EIS. However, cumulative effects analysis has been done, where reasonable, and data gaps which prevent other analyses are noted. |

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

*Very adequate
Details are sufficient to make judgments.*

Why?

Comments on Alternatives: *There were more areas of concern
and various options*

Why?

Other: *Good thorough report.
We departed from section on herbicide
and burn.*

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Joe D. Mills (S.C. Forestry Assoc)

Name	First	Middle	Last	(Organization)
	Joe	D.	Mills	(S.C. Forestry Assoc)
Street	P.O. Box 21707			
City	Columbia	State	SC	Zip Code 29221

← Tear at perforation

Response to Comments in Letter No. 176

From: Joe D. Mills

Comment No.

Response

- | Comment No. | Response |
|-------------|---|
| 1 | The Interdisciplinary team is please that you found the overall analysis and specifically the herbicide and fire analyses well done and useful. |

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: As a sportsman, hiker, and camper, I solidly support our U. S. Forest Service, however that doesn't mean I agree on every point. I compliment you on your scientific analysis, it was extremely thorough and easily understood by this lay-man. You really did your homework. Thank you.

Why?

2 Comments on Alternatives: ALTERNATIVE P is my choice after due consideration. My reasons for choosing "P" are primarily that I do not believe herbicides should be used on our public lands, unless they are employed plant by plant on individual undesirable species. I believe utility and gas line right of ways as well as all roads on national forest lands should be seeded or planted with high quality wildlife food, NOT sprayed with herbicides. Right-of-way and road property used by utility and ~~utility~~ gas companies should be seeded and maintained for wildlife food by the individual companies at their own expense. Logging roads should be heavily seeded, not graveled. Or they should be allowed to return to nature as have those of fifty years ago or so. Maybe it would help provide food for deer, turkeys, grouse, and at the same time keep those illegally operated motorcycles and ATVs out of the forest that the ~~USFS~~ Forest Service cannot or will not control. I approve the use of controlled fire as it curtails future wildfire and helps provide food for certain wildlife species, as long as the fire does not destroy either young or old standing timber to any extent.

Thank you for considering my opinions.
Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Bill		Anderson	
Name	First	MI	Last (Organization)
PO Box 151			
Street			
Birchleaf, Va.		24220	
City	State	Zip Code	

Tear at perforation

Response to Comments in Letter No. 127

From: Bill Anderson

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful.
- 2 The commenter's preference for alternative F was included in the content analysis of all comments received. Alternative F does have some of the favorable effects listed. All effects from herbicides are eliminated because they aren't used. However, alternative F does have some effects (such as high risk of accidental injury) considered unfavorable by other commenters. Pages II-79 and II-80 of the Draft EIS summarizes the effects of alternative F. More detailed summaries of impacts of each alternative begin on page IV-130 of the Draft EIS.

We agree that where feasible utility lines and closed service roads should be managed for wildlife habitat. This is being done on many forests by both Forest Service and cooperators. However, even in these situations active management is required to prevent woody encroachment. Your suggestions have been forwarded to the Forest in your area to consider when they do site-specific analysis.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

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1 Comments on Scientific Analysis: As a sportsman, hiker, and camper, I solidly support our U. S. Forest Service, however that doesn't mean I agree on every point. I compliment you on your scientific analysis, it was extremely thorough and easily understood by this lay-man. You really did your homework. Thank you.

Why?

2 Comments on Alternatives: ALTERNATIVE F is my choice after due consideration. My reasons for choosing "F" are primarily that I do not believe herbicides should be used on our public lands, unless they are employed plant by plant on individual undesirable species. I believe utility and gas line right of ways as well as all roads on national forest lands should be seeded or planted with high quality wildlife food, NOT sprayed with herbicides. Right-of-way and road property used by utility and ~~utility~~ gas companies should be seeded and maintained for wildlife food by the individual companies at their own expense. Logging roads should be heavily seeded, not graveled. Or they should be allowed to return to nature as have those of fifty years ago or so. Maybe it would help provide food for deer, turkeys, grouse, and at the same time keep those illegally operated motorcycles and ATVs out of the forest that the ~~CONSERV~~ Forest Service cannot or will not control. I approve the use of controlled fire as it curtails future wildfire and helps provide food for certain wildlife species, as long as the fire does not destroy either young or old standing timber to any extent.

Thank you for considering my opinions.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Bill		Anderson	
Name	First	MI	Last (Organization)
PO Box 151			
Street			
Birchleaf, Va.		24220	
City	State	Zip Code	

Tear at perforation

Response to Comments in Letter No. 127

From: Bill Anderson

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful.
- 2 The commenter's preference for alternative F was included in the content analysis of all comments received. Alternative F does have some of the favorable effects listed. All effects from herbicides are eliminated because they aren't used. However, alternative F does have some effects (such as high risk of accidental injury) considered unfavorable by other commenters. Pages II-79 and II-80 of the Draft EIS summarizes the effects of alternative F. More detailed summaries of impacts of each alternative begin on page IV-130 of the Draft EIS.

We agree that where feasible utility lines and closed service roads should be managed for wildlife habitat. This is being done on many forests by both Forest Service and cooperators. However, even in these situations active management is required to prevent woody encroachment. Your suggestions have been forwarded to the Forest in your area to consider when they do site-specific analysis.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I think this was very well done and is very complete.

1

Why?

Comments on Alternatives: *Very well covered! Jones did an excellent job on the slide-tape program.*

Why?

Other: *We need more public education on the safe use of herbicides, too many people have "Toxic Scare".*

2

Why? *Too much negative items in the news, would use more positive information released to the news media to help educate the public.*

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Robert G. DEYO FS
 Name: First MI Last (Organization)
2424 Magnolia Avenue
 Street
Gran Vista Va 24416
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 178

From: Robert G. Deyo

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful.
- 2 We agree.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

- 1 Comments on Scientific Analysis: The analysis appears to be sound and thorough, except for one issue. All the possible effects of vegetation management are discussed, except for convincing evidence that vegetation management (esp herbicides) is
- 2 Why? beneficial for timber production. This is, after all, the major reason why vegetation management is so important (sit prep + TSE). In each alternative sit prep and TSE account for a large percentage of the treated acres.
- Comments on Alternatives:

I agree that Alternative D is the best choice, when all factors are considered.

- 3 Other: I found a few typographical and grammatical errors. They are on pages: I, II-32, ~~II-37~~ II-49, and in the Appendices.
- Why? 3-17 and 3-18.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Charles J. Rarden, Penn State Univ
 Name First MI Last (Organization)
 204 S. Ferguson Bldg.
 Street
 University Park, PA 16802
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 191

From: Charles J. Barden

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful.
- 2 The issue of timber production is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.
- 3 Thanks for bringing these to our attention. Corrections have been made.

207, 218-219, 226, 328-329, 359-361, 363-364,
416, 421, 514-515, 542, 558, 568

The above letter numbers are all of the same content and a copy of the letter is reproduced below. These numbers also appear next to the names of persons who sent them in chapter VI (Volume III). Most of them did not have an address. Therefore, we were unable to add them to our mailing list to receive an EIS.

U.S.D.A. Forest Service
V.T. Room 382 South
1720 Peachtree Road N.W.
Atlanta, Georgia 30367-9102

Jan. 27, 1969

To whom it may concern;

1 I strongly oppose both ground and aerial spraying of herbicides in the National Forests. These are extremely toxic chemicals whose detrimental present and future impact on human health, wildlife, plant ecology, and water systems has not been responsibly assessed. I advocate the use of other means of controlling unwanted vegetation that have a less negative impact on the total environment.

Sincerely,

My address is:

16 Lockwood Dr. Atlanta, GA 30304 *Debbie Atkins*

Response to Comments in Letter No. 206

From: Form Letter

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

As a result of comments by the public and management the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

no suitable alternative

1

Why? Pick one between alternative F & G. if cover about 2% of National Forest each year. This means that every acre, on average, would receive treatment every 50 years.

Other:

Herbicide 5%
prescribed fire 5%
manual 45%

Why?

mechanical 44%
biological 1%

2

To get off dose, provide info, re minimum danger to environment from herbicide toxic effects. Thank you. *Paul D. Taylor*

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Davis DAPHNE, AC
Name First MI Last (Organization)
P.O. Box 2667
Street
Blount, Ala, 36105
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 208

by: David Dauphine

Comment No.	Response
1	Your preference for an alternative somewhere between F and G was included in the content analysis of all comments received. Please see response to comments in Letter No. 474, Comment No. 4. Also see Letter No. 522, Comment No. 1. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
2	With respect to employment, please see response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3. Regarding herbicide safety and environmental concerns, please refer to response to comments in Letter No. 1 and Letter No. 206, Comment No. 1.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

WE SUPPORT THE GOVERNMENT FINDINGS

Why?

Comments on Alternatives:

1 TAYLOR-RAMSEY CORP. SUPPORTS THE PREFERRED ALTERNATIVE "D."

Why? WE FEEL THAT MANAGEMENT OF OUR NATIONAL FORESTS MUST BE INTENSIVE IN ORDER TO INSURE A HEALTHY FOREST FOR OUR CHILDREN, GRANDCHILDREN ETC

Other: VEGETATION MANAGEMENT IS BUT ONE MANAGEMENT TOOL TO ACHIEVE THIS GOAL.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

TAYLOR-RAMSEY CORPORATION
 Name First MI Last (Organization)
 P.O. Box 11555
 Street
 LYNCHBURG VA 24506
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 209

From: Taylor-Ramsey Corp.

Comment No.

Response

- 1 The commenter's preference for alternative D was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: *Most impressive*

Why?

1 Comments on Alternatives: *Agree with your selection of alternative D as a general guide to vegetation management. As a conservationist, I would personally prefer alternative E (where all of the proposed reduction in acreage planned for treatment is by fire)*

Why?

2 Other: *Scheduling of treatments at periodic intervals is, perhaps, derived from the desire, which was the it would seem desirable to synchronize treatments with the established cycle of timber sales. There is much to be said for doing all things necessary at a single entry, then letting the area (sub-compartment) rest for the point was considered, I missed it.*

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Dorald J. Adkins (Retired USFS)

Name First MI Last (Organization)

Ed Baldwin Corp

Street

Cherokee, FL 32932

City

State

Zip Code

← Tear at perforation

Response to Comments in Letter No. 210

From: Donald J. Morris

Comment No.

Response

- 1 Your preference for alternative E was included in the content analysis of all comments received. Please see response to comments in Letter No. 281, Comment No. 7.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 The schedule of entry of treatments vary, but generally occur on 10-year cycles depending upon the size and complexity of the treatment area. Normally, during the sale entry period or shortly thereafter all related treatments such as site preparation, TSI, and wildlife habitat needs are completed.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why? The EIS was well prepared - it's unfortunate that public input is so low that you people ignored the wishes (majority) of those who did take the time to respond. Comments on Alternatives: The public would like to see less fire management and less herbicide use and more Why? emphasis placed on manual methods which would create more jobs & lessen impact on environment. Other: I'm sure the chemical companies are pleased with the preferred alternative, Why? Personally, I'm not. Watershed protection should be #1 priority.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Gil Hargett
 Name First Last Organization
 1394 Hargett Rd
 City State Zip Code
 Murphy NC 28906

Tear at perforation

Response to Comments in Letter No. 211

From: Gil Hargett

Comment No.

Response

- 1 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

Sylva, W.C.
Jan. 19, 1989

Dear Sir:

I am writing you because I am concerned about the way our forests are being managed. I was born and raised in the mountains and I love them. But if the Forest Service continues on the way they are going there will be no forest for my grandchildren to enjoy. All my family loves to hunt and fish. But herbicides and clear cutting are destroying all the mast bearing trees and polluting the water. Clear cut areas that are burnt over also cause soil erosion.

1 Your Draft Environmental Impact Statement contains 4 major sections. 1. Purpose & Need. I know vegetation has to be controlled to attain good quality timber stands. I think more manual and mechanical labor would be better than so much use of herbicides. Use of manual labor would give a lot of people much needed jobs.

2 2. Alternatives. I believe your alternative D is the worst one you could pick. I think herbicides and fire should be about 5 to 6%, manual 45- mechanical 42- and grazing 3%. This would set the job done, would be what the people want and would not be nearly as dangerous to the environment. The Forest Service should be working with the people instead of against them. I don't see why they should give our tax money to the big chemical companies, they are not interested in the environment. They could use this money to hire manual labor.

3 3 & 4. Herbicides and clear cutting both have a bad effect on the environment. Herbicides can pollute the streams and underground water. Also you don't have enough data on the adverse effects on people. They could cause cancer or other life threatening diseases in years to come.

4 Clear cuts that are burnt over cause erosion. A lot of clear cuts are left with thousands of feet of good timber just lying on the ground to rot. I could take you today and show you plenty of these places. It is really disgusting to look at and know it is being wasted. I get mad every time I look at one. Clear-cutting has not yet proven itself but you continue to slaughter our beautiful forests every day. Clear cutting might be fine for some areas, such as where a fire has killed the trees or when diseased or dead trees should be removed. But to just go in and cut young, beautiful trees that are still growing (like the plots in the Roaring Hole area, Wayah District in Jackson County) is really a crime. I thought the Forest Service was supposed to take care of our forest and try to conserve them for future generations instead of destroying them.

I think one reason the Forest Service likes clear cutting so well, it is the lazy mans way of doing it. They don't want to get out from behind their comfortable desk long enough to go out and mark the trees to be selectively cut. Of course they take their orders from the big men in Washington, who just look at a map and say cut this, cut that and don't really know how bad it looks or how much timber is being wasted.

Response to Comments in Letter No. 212

From: Marjorie Hall

Comment No.

Response

- 1 Please see the analysis of alternative E which discloses the effects of reducing herbicides and fire while increasing manual and mechanical tool use. Please also see response to comments in Letter No. 281, Comment No. 7.
- 2 Your opposition to alternative D was included in the content analysis of all comments received. In the Final EIS we examined very carefully an alternative very similar to your suggestion. Please see chapter II, Alternatives Considered But Eliminated From Detailed Analysis. It was found to not be implementable primarily because the low percent of prescribed fire would not allow treatment of enough hazardous fuel build-up and the large percent of mechanical treatments would not be possible because of steep slope limitations. See also response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3 which deal with employment. Response to your proposed tool distribution is presented in response to comments in Letter No. 166, Comment No. 3.
- 3 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS.
- 4 The issues of clearcutting and road closings are outside the scope of the EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest.

One more thing before I close. I would like to see more of the Forest Service roads left open especially in the Fall of the year when it is dry and the leaves are turning. Our hard earned tax dollars pay for all the high priced roads that are built but then we aren't allowed to use them.

Thank you for your time and I'll be waiting for a reply to this letter.

Yours truly,

Marjorie Hall

Marjorie Hall

I have sent copies of this letter to:

Mr Harry Laysan Dept. of Conserv. & Devel. Raleigh, N.C.
Congressman James McClure Clark
Senator Terry Sanford
Senator Jessie Helms
Governor James Martin

Reproduced from poor document.

*Vegetation Management in Appalachian Mts. Drought environment
Import Study and
Data No. 1981*

Year of publication

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Jan 28, 1989

1

I object to the use of so much herbicide & fire in hardwood stands. The only reasonable place to use herbicide is odd places around campgrounds, picnic areas, ^(small spraying) where any other method would be impractical. Why? Large scale application of herbicide is potentially dangerous. Vegetation control in hardwood stands can be accomplished by proper silviculture. The ridiculous objective of establishment of pine stands on natural or untamed hardwoods by clearcutting, ~~is~~ is a proper technique. Comments on alternatives: (and planting it at the root of the problem)

2

If you would put silviculturists in the woods to practice their craft they could regenerate desirable hardwood species by judicious harvest cuts just as silviculturists have done since Why? long immemorial. Clearcutting or then spraying noxious chemicals ~~to~~ to control the resultant sprout growth is not the answer. Ecologically ~~sound~~ based methods are.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Osborn O Wells USFS (retiree)
Name: First: *Osborn* Last: *Wells* (Organization)
Street: *Box 65 Waverly Rd*
City: *Kayser City NC* State: *NC* Zip Code: *28713*

Year of publication

Response to Comments in Letter No. 216

From: Osborn O. Wells

Comment No.

Response

- 1 Your concerns about herbicide use and fire have been included in the content analysis of all comments received. Mitigation measure numbers 3 and 4 on page II-53 of the Draft EIS are directed specifically at protection of hardwood stands when prescribed fire is used. In the preferred alternative, herbicides are used selectively only when releasing hardwood species.
- 2 The decision of what species to establish or manage for is not within the scope of this EIS but rather is addressed in the Forest Land and Resource Management Plans developed by each Forest.

ARTHUR RAVENEL, JR.
1ST DISTRICT, South Carolina

COMMITTEE ON
ARMED SERVICES

SUBCOMMITTEE
MILITARY INSTALLATIONS
AND FACILITIES
MILITARY PERSONNEL
AND COMPENSATION

Congress of the United States
House of Representatives
Washington, DC 20515

January 30, 1989

Mr. Steve McCorquodale
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N. W.
Atlanta, GA 30367

Dear Mr. McCorquodale,

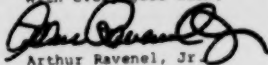
Thanks for giving me the opportunity to comment on the EIS for Vegetation Management in the Appalachian Mountains. I will be brief because most of the comments I have have already been made in the comment letter I sent on the vegetation management program in the Coastal Plain and the Piedmont.

I strongly oppose expansion of the herbicide program that is proposed in the preferred alternative. I would support adoption of Alternative F, relying solely on biological controls, prescribed burning, manual and mechanical methods.

My comment is somewhat broader than your analysis probably allows. This country has serious problems with current agricultural methods due to an excessive reliance on pesticides, herbicides and chemical fertilizers. Water quality has been seriously compromised nationwide from current farming operations. Disposal of hazardous wastes produced in the process of creating herbicides and pesticides, and disposal of residuals, is a national crisis. Energy required for production and application of these control agents is resulting in dangerous levels of greenhouse gases accumulating in the atmosphere.

My point is that the Forest Service must take a larger view of the implications of its vegetative management strategies. It must be a model of responsibly stewardship of forest resources for the private sector in this country and for other countries. I would urge you to adopt Alternative F, both because it represents an effective control strategy, and because it serves the long term interests of our country in adopting sustainable, environmentally safe forest management techniques.

With every good wish,



Arthur Ravenel, Jr.

WASHINGTON OFFICE
Room 508
Cannon Building
202-225-2170

DISTRICT OFFICES
840 FEDERAL BUILDING
CONGRESSIONAL BLDG. 2C 20402
800-734-4175

283 CAPITOL STREET
WASHINGTON, DC 20540
800-640-6391

P.O. Box 1839
Baltimore, MD 21202
800-634-2168

P.O. Box 650
Spartanburg, SC 29302
800-425-3177

Response to Comments in Letter No. 217

From: Congressman Arthur Ravenel, Jr.

Comment No.

Response

- 1 The commenter's preference for alternative F was included in the content analysis of all comments received. None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-58 to II-65 of the Draft EIS.

Scientific evidence presented in the Risk Assessment and the EIS supports the position that herbicides can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-58-65) of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

Prior to any vegetation management treatment, projects will undergo site-specific analysis (mitigation measure number 1 on page II-44 of the Draft EIS) which determines appropriate methods and tools, intensity and selectivity of applications, and the potential environmental effects of the methods considered based on project objectives, species biological requirements, and site characteristics. This includes the examination and evaluation of a reasonable range of alternative methods, including the use of methods which do not involve herbicides.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

Hayesville, N.C.
Jan, 30, 1989

Dear Mr. McCorquodale,

Thank you for your response
to my letter concerning the spraying
of our forest.

I live in the mountains and
I see what man has done to his
environment. A drive through east
Tenn or Western N.C. is self-
evident.

The large trees have been
harvested. The remaining trees
struggle to overcome the effects
of acid rain, smog, fires,
disease, insects and clear cutting.



Our Forest Service should have plenty to do if it deals with these problems without adding more chemicals to our environment.

- The adverse effects of
- 1 herbicides to human health is uncertain. Should "we the people" be used as guinea pigs?

I have two more questions:

- 2 Why spray the balds?
- 3 What happened to the rabbits?

Yours truly,
James MacCabe

Response to Comments in Letter No. 220

From: Frances McGorkle

Comment No.

Response

- 1 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Balds are not recommended to be sprayed; rather treatments are to be 100% selective. Please see selectivity tables for herbicide treatments on page II-10 in the Draft EIS. The primary treatment methods for balds are prescribed fire and grazing. See the acre breakdown for each activity in "Modified D" in chapter II of the Final EIS. Herbicides are generally used to prevent resprouting of cut woody stems or encroaching species such as blackberries coming into balds.

In the absence of natural or man-caused disturbances, succession in grassy balds slowly proceeds from herbaceous to woody species (Uplands Field Research Laboratory 1983; Pittillo 1980). Woody succession has been estimated to be reducing the area of grassy balds by approximately one percent per year (Lindsey and Bratton 1979a). For example, Bratton and White (1980) estimated that all balds on the Great Smoky Mountain National Park would be forested in 30 to 70 years.

For further discussion as to why balds, natural or man-made in origin, require some vegetation management, see chapter III, pages III-15 to III-17, and chapter IV, pages IV-46 to IV-49, IV-53 to IV-54, IV-60 to IV-62, and IV-63 to IV-64 of the Draft EIS.

- 3 Your question cannot be explained without more information, but would be a very good question for one of the wildlife biologist in your area.

John E. Alcock
 U.S.D.A. Forest Service
 1720 Peachtree Rd. N.W.
 Atlanta, Ga. 30367

Dear Forest Service,

I am responding to the
 vegetation management proposals. I
 strongly support Alternative B as
 the safest and lowest impact plan
 for our national forests.

1 I think any heavy use of
 herbicides and chemicals is a mistake.

Please include these opinions
 in your decision.

Thank you

Bruce Green
 Et. S., Box 340
 Knoxville, et. S.

287/4

Response to Comments in Letter No. 221

From: Bruce Greene

Comment No.

Response

- 1 The commenter's preference for alternative B was included in the content analysis of all comments received. Please see response to comments in Letter No. 261, Comment No. 2.

None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-58 to II-65 in the Draft EIS. As stated in mitigation measure number 1 on page II-44 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides. An additional mitigation measure has been added in chapter II of the Final EIS that requires Regional Forester approval for the use of class B and C herbicides (table II-1).

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1 and Letter No. 560.



IN REPLY REFER TO:

L7617

January 31, 1989

United States Department of the Interior

NATIONAL PARK SERVICE

BLUE RIDGE PARKWAY
700 Northwestern Bank Building
Asheville, North Carolina 28801

Mr. Steve McCorquodale, Team Leader
Vegetation Management EIS Team
USDA Forest Service
Room 362S - DRAFT AM
1720 Peachtree Road NW
Atlanta, Georgia 30367

Dear Mr. McCorquodale:

We have had the opportunity to review the summary Draft Environmental Impact Statement for Vegetation Management in the Appalachian Mountains (Management Bulletin R8-MR 24). We appreciate the opportunity to comment and commend your staff for preparation of such a comprehensive document.

Our primary area of concern in matters relating to your efforts to control unwanted vegetation is in the use of herbicides. The Blue Ridge Parkway avoids all chemical agents except one, Glyphosphate, and limits the application technique to hand application to selected target plants, kudzu, in very limited areas (less than ten acres in total). We would only ask that the Blue Ridge Parkway be contacted when your agency plans to use herbicides or biocides within a half mile of the Parkway.

Sincerely,

Arthur C. Allen
Arthur C. Allen
Chief Resource Management
and Professional Services

Response to Comments in Letter No. 222

From: Arthur C. Allen

Comment No.

Response

-
- | | |
|---|---|
| 1 | Notification on a project-by-project basis is beyond the scope of this EIS. Individual ranger districts likely to affect the Parkway's one-half mile desired buffer should be contacted and a notification plan should then be worked out at the local level. |
|---|---|

382 White Oak Creek Rd
Burnsville NC 28714

Jan. 29, 1989

John E. Alcock
USDA/US Forest Service
1720 Peachtree Rd. N.W.
Atlanta GA 30367

Dear Mr. Alcock,

- I am writing in support of Alternative B in the recent proposals for vegetation management in our area National Forests. Of the proposals offered,
- 1 I believe this one to be the safest for humans, animals and plant life. I do not favor use of herbicides as a forest management practice (or for general agricultural use) and I do not favor clear cutting as a method of choice for harvest of forest products.
 - 2

Our forests are precious and fragile natural resources which provide a variety of economic and recreational opportunities. It is difficult to find the most agreeable balance between the two. I don't think we should "play around" with our natural resources any more than is reasonably justified. Plan B does not completely fit my personal requirements but is the least offensive to me in most respects. Please give it your consideration.

Yours,

Dwight J. Thayer

Response to Comments in Letter No. 223

From: Dorothy J. Hoeger

Comment No.

Response

- 1 The commenter's preference for alternative B was included in the content analysis of all comments received. Please see response to comments in Letter No. 266, Comment No. 2.

None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-58 to II-65 in the Draft EIS. As stated in mitigation measure number 1 on page II-44 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides. An additional mitigation measure has been added in chapter II of the Final EIS that requires Regional Forester approval for the use of class B and C herbicides (table II-1).

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1 and Letter No. 560.

- 2 The issue of clearcutting is beyond the scope of this EIS document and was addressed in the Forest Land and Resource Management planning process. Please see the activities addressed on Page I-1-3 of the Draft EIS.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Since I did not receive the Appendices as part of my volume - which were of most interest to me in their assessment of herbicides, & of the proposed act. on T & E species - I can't answer this.

Why?

Comments on Alternatives:

1 I oppose the proposed alternatives, but I did not prefer either. The 2 ~~other~~ ^{other} acts, w/c no built-in - A & F - are not satisfactory either. A prohibition on Why? ~~advisory~~ ^{advisory} F users too intensively side prop.

2 I oppose intensive side prop because of impacts on soil erosion & water quality, as well as disturbance to wildlife. I particularly oppose the use of herbicides. 3 Other: much less an increase in their use, particularly 2,4-D & 2,4-DP. I do not feel that any alternative reflect a well balanced, environmentally sensitive position.

Why?

Thank you for giving me the opportunity to express my views. I appreciate this exercise.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

CHRISTINA BOLDIANO ^{CB}
Route 1, Box 351
Falls Run, VA 22830

Name First MI Last (Organization)

Street

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 224

From: Christina Bolgiano

Comment No.

Response

- 1 Your opposition to the preferred alternative was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Intensive mechanical methods such as heavy disking and root raking are not permitted. Mitigation measures to prevent adverse impact to soil and water are included on pages II-56 and II-58 of the Draft EIS. Data presented in the EIS indicates that using moderate to low intensity tools does not cause appreciable soil erosion or water quality degradation. It is possible that some wildlife will be temporarily disturbed but population recovery is normally very rapid as is disclosed in the EIS.

- 3 Please review mitigation measure number 7 on page II-59 of the Draft EIS. This measure essentially eliminates the use of 2,4-D and 2,4-DP from National Forest programs. Also in the Final EIS, an additional mitigation measure has been added that requires Regional Forester approval prior to use. Also please see response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.

Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Scientific analysis is adequate and seems to address the major issues in a non-biased fashion.

Why?

1

Comments on Alternatives: *I prefer alternative E*

Why?

Alternative E seems to provide adequate tools to the Forest Service, but reduces the use of herbicides. The cost is in line with the other reasonable alternatives.

Other:

2

Why?

Although I know that the purpose of this response is not to question how we, I would like to express my opinion about the Forest Service's more recreational development (trails, back country route, etc.) rather than increased timber production.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Christopher Brooks MD

Name: First MI Last (Organization)

8854 Wiedle II Ave

Street

Knox, TN 37919

City

State

Zip Code

← Tear at perforation

Response to Comments in Letter No. 225

From: Christopher Brooks

Comment No.

Response

- 1 The commenter's preference for alternative E was included in the content analysis of all comments received. Please see response to comments in Letter No. 281, Comment No. 7.

None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-58 to II-65 in the Draft EIS. As stated in mitigation measure number 1 on page II-44 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides. An additional mitigation measure has been added in chapter II of the Final EIS that requires Regional Forester approval for the use of class B and C herbicides (table II-1).

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Recreation planning is indeed outside the scope of this EIS and should be considered during the land management planning process conducted at the Forest Supervisor's Office (for the Cherokee National Forest, the Supervisor's Office is located in Cleveland, TN).

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: *The scientific analysis is very adequate, since I would not know the difference. (not having facts, etc)*

Why?

1

Comments on Alternatives: *I favor Alternative F.*

Why? *Because Herbicides are not allowed, W&N is slowly poisoning the atmosphere and water quality. Use of harmful chemicals has got to stop.*

Other: *Alternative D would be my second choice.*

Why? *ugh, if there is use of Herbicides by hand, the best use besides ALT. F) I like the other methods available.*

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Mackie R Blackmon
Name First MI Last (Organization)
6740 Bethanna Rd
Street
Tabbaccaville N.C. 27350
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 227

From: Hackie R. Blackburn

Comment No.

Response

- 1 Your preference for alternative F (and then B) was included in the content analysis of all comments received. Please see response to comments on Letter No. 522, Comment No. 1; and Letter No. 261, Comment No. 2.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.



Appalachian State University
Boone, North Carolina 28608

704/262-3000

February 1, 1989

Mr. Steve McCorquodale
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, Ga 30367

Dear Mr. McCorquodale:

I received the draft EIS on Vegetation Management in the Appalachian Mountains and have had an opportunity to read much of the work. I have one very important general criticism and several specific points to make about the two volumes.

1. Although this may reach beyond this particular EIS, the physical provinces included as a region for this and, I suspect, other Forest Service designations are absolutely misnamed. The physical region in which you have included the Blue Ridge Province, the Ridge and Valley (or Valley and Ridge) Province and the Appalachian Plateaus (Cumberland portion) is definitely not the Appalachian Mountains. It is the Appalachian Highlands.

Technically, Appalachian Mountains are what you are calling the Blue Ridge Province. (See pg. III-1.) This province technically consists of the Blue Ridge Mountains (along the eastern front), the Great Smoky Mountains (on the NC-TN border), the Unakas (along the western flank in northwestern NC, northeastern TN, and southwestern VA), and the intermontane basins (Ashville, Watauga River, New River, etc.). Over the years a few people in the Northwestern U.S. erroneously began to call the entire Appalachian Mountains Region "the Blue Ridge Mountains." This happened because in Virginia the Blue Ridge becomes a single ridge north of Roanoke and without any knowledge of how the province widens here in North Carolina, they assumed that the name "Blue Ridge" would fit the rest of the province. They were wrong. The term "Blue Ridge" refers to just that, a ridge. It so happens that a ridge is about all Virginia, Maryland and Pennsylvania have in that province--hence, Blue Ridge.

It is important for the USDA Forest Service to correct this. People from North Alabama, Central Tennessee and Western Kentucky are certain that they don't live in the Appalachian Mountains. When they see Appalachian Mountains used by the Forest Service to describe the region in which they are located, the issue becomes confused for them, not to speak of the credibility problem it creates for the Forest Service. The Forest Service should be very concerned about rectifying such problems, no matter how long they have been perpetuated or ingrained in documentation of the agency.

Response to Comments in Letter No. 228

From: Neal C. Lineback

Comment No.

Response

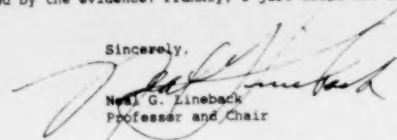
1 We used the name "Appalachian Mountains" because it is a widely-understood lay term commonly used by the general public to refer to the entire area covered by this EIS. We chose to sacrifice some precision in technical terminology in order to maintain clear understanding in the minds of most readers. We did use the term "Appalachian Highlands" as you suggest to refer to this area (Draft EIS page III-1). Unfortunately, figure III-1, which shows the physiographic divisions of the South, was omitted from the Draft EIS by the printer.

We do not agree that the Appalachian Mountains are technically limited to the Blue Ridge province. For example, many peaks and ridges reach altitudes of over 4,500 feet in Virginia (Ridge and Valley), 4,000 feet along the Kentucky-Virginia border (Cumberland Mountains), 3,000 feet in central Tennessee (Cumberland Plateau), and 2,000 feet in eastern Kentucky and northern Alabama (Cumberland Plateau) and along the Alabama-Georgia border (Ridge and Valley). Please see Draft EIS pages III-2 and III-3. Nearly all national forest land, which the EIS covers, lies astride the peaks and ridges in the area, which typically rise 1,000 feet or more above the adjacent lowlands. We maintain that to not call such terrain "mountains" would be technically inaccurate and would confuse most of the public who regard them as mountains.

2. I would suggest that the Summary at the beginning of Volume I could be better organized and explained. Part of the problem derives from the fact that the reader enters the publication with an Introduction that does not really introduce what the work is about. It is almost like the Summary was pulled from the end of the book and with minor adjustments made the Introduction. For example, "Alternative D is the preferred alternative" is highlighted before any discussion of the fact that several different sets of alternatives were analyzed for impacts on the environment, workers and population. I read this Summary twice before proceeding to the rest of the work. It wasn't until I finished Chapter 1 that the Summary began to make sense. A true summary is an abstract: it begins at the beginning and ends at the end. Or in other words, in a few paragraphs it should tell the purpose, methodology, results and conclusions. Frankly, the Summary as written does not do that.
3. Although the contractors were very thorough in documenting and discussing "environmental consequences," for example, I do not read where and how these consequences were incorporated into the selection of the Alternative D, for example. I kept expecting for the logical trail of communication to make the circle and come back to explain why (in great detail) Alternative D was better than any of the others. Now, maybe this is done somewhere, but it escaped me. This is a very serious omission (if indeed it was omitted). It seemed to indicate that the scientific study was done by one group and the decisions about how the alternatives were evaluated by another group. The latter decision-making process was not apparent to me. Was Alternative D selected first, then supported by the documentation/scientific analysis? Or was the analysis done and then the management decided on Alternative D? If the first case is correct, it is not the way to do a study using scientific method. If the second case is correct, then there is no (apparent) discussion of the weight given to the components of the final decision. At any rate, I had trouble understanding the logic of the process and that shouldn't be the case in an EIS. This leads me to my conclusion, below:
4. It is difficult enough for an evaluator of an EIS to get through the reams of paper and the ideas therein. For this reason alone, extra special attention needs to be paid to organization and logical threads of ideas, concepts and conclusions. I encourage the authors to look carefully at their organization and particularly at their subtitling. I tried to read the document for comprehension (suppressing any editorial urges, I might have had) and it just did not have the cohesion that was needed to lead me from idea to idea. Consequently, I came away with a feeling of having wasted a considerable amount of time, for my comprehension of the subject at hand had been little improved.

I hope that I have not been too harsh in my criticisms above, but in reviews of EISs in Alabama over 15 years, I tried to make sure that I could understand their contents first. Then, I tried to evaluate whether the decision arrived at by the writers was justified by the evidence. Frankly, I just could not do that with this EIS.

Sincerely,


 Neal G. Lineback
 Professor and Chair

- 2 40 CFR 1502.12 places constraints on what a summary should contain. Our summary is organized as suggested by the regulations, and is sequenced in much the same manner as the EIS. It may seem different from other EIS summaries because we made an effort to combine what, in the past, have been called "Executive Summary" and "EIS Highlights" into one, easy-to-read document.
- 3 The Draft EIS is prepared to conform to the requirements of the National Environmental Policy Act. Certain decisions about where to put information were made within the framework of the CEQ Regulations. Thus chapter I presents the process; chapter II presents the alternatives, summary information about the tools proposed for use, and conclusions from the analysis (mitigations necessary to cause an acceptable degree of risk), and a (conclusion again) comparison of environmental effects; chapter III presents environmental background; and, chapter IV presents the analyses by environmental element potentially affected and a summary of impacts by alternative. The two internal summaries pull things together and the commenter is referred to pages II-67 and IV-130 and subsequent pages. When an alternative is selected, that selection is disclosed in a Record of Decision. Along with the selection there is a discussion of the decisionmaker's rationale. A Draft EIS does not disclose selection, just preferences; thus no rationale for a decision are discussed.
- 4 We agree that a large document is very difficult to organize and flow easily. In the Final EIS, the authors have reviewed and made numerous organizational changes and clarification to make the document more readable.

Thomas E. Orr
271 Monte Vista Road
Candler, N. C. 28715

United States Department of Agriculture
Forest Service
Southern Region

Gentlemen:

Just this week I received a note reminding me that the comment period for public input for your EIS is close to closing. I had deliberated for a long time whether to comment. Your note has prompted me to do so.

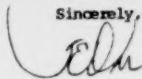
I have to admit that I did not read the entire amount of material. In fact, I actually read almost none of the material. The amount of volume of the EIS simply overwhelmed me. And I would feel safe in venturing that is true of almost all of the copies which you prepared and sent out. You did a nice job of collecting information and presenting it to the public.

1 However, I resent that my tax dollars were used to collect, prepare, edit, and publish this amount of material. In my opinion, the whole process is nothing short of ludicrous. The bulk of your staff and employees is made up of professionally trained foresters and people with biology backgrounds. In other words you are the experts in your field. For me, a layman with some limited exposure to have equal input into this technical decision, is utterly a joke. I would not want any of your professionally trained forestry staff to have input to my brain surgeon just before he performs a surgery on me.

The only input that I feel qualified to make is that I strongly favor multiple use of the land which you oversee. I own this land along with all tax paying Americans. I want to see timber harvested on a sustained yield basis. I believe in locking up some of this land into wilderness areas, but I also believe that we already have enough wilderness area for today's and tomorrow's generations. The preparation of timber sales should be done in a simplified fashion to get the job done without operating on a CVA basis of nit-picking it to death to the extent that the sales are operated as a deficit.

What I conclude with is-you're my hired, professionally trained experts. I trust you to operate on a sustained yield, multiple use basis. DO YOUR JOB and leave me with my limited knowledge out of your decisions.

Sincerely,



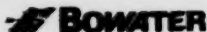
Response to Comments in Letter No. 229

From: Thomas E. Orr

Comment No.

Response

- 1 Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act outline in section 1501.4 when an EIS should be prepared. The Regional Forester's decision to prepare an EIS is based, in part, on this section of the regulations. See also introduction and need for action discussions on pages I-1 to I-3 of the Final EIS. This process requires that the public be allowed input into this process.



HAWASSEE LAND COMPANY

Cathoun, TN 37308
615/336-2211 Telex 55-8406

February 3, 1989

Mr. Steve McCorquodale
U. S. Forest Service
1720 Peachtree Road, NW
Atlanta, Georgia 30367

Dear Mr. McCorquodale:

1 Several of our woodlands staff have reviewed the Draft Environmental Impact Statement, Vegetation Management in the Coastal Plain/Piedmont, Risk Assessment Summary. Based on our experience, the statement is well presented, factual, and should give the Forest Service the vegetative management tools to do the job safely and effectively.

We have no criticism of the summary.

Sincerely,

A handwritten signature in cursive script that reads 'James H. Hill'.
James H. Hill
Forestry Relations Supt.

JHH/br

Response to Comments in Letter No. 230

From: James H. Hill

Comment No.

Response

- | | |
|---|---|
| 1 | The interdisciplinary team is pleased that you found the analysis well done and useful. |
|---|---|

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: Excellent

The analysis was complete and objective. Sources were representative and authoritative.

Why?

1 Comments on Alternatives:

Potomac Edison strongly supports Alternative D as the preferred method.

Why?

It is Potomac Edison's belief, that as the analysis indicates, Alternative D offers the least environmental disruption, the greatest worker safety, and the greatest returns to society, all at an acceptable cost.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Michael R. Watson Potomac Edison C
 Name First MI Last (Organization)
 Dumasville Pa
 Street
 Hagerstown Md 21740
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 231

From: Michael R. Nelson

Comment No.

Response

- | | |
|---|---|
| 1 | The interdisciplinary team is pleased that you found the analyses well done and useful. |
|---|---|

Tear at perforation

2/4/89

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Dear Steve: I have the DEIS's for Coastal Plain/Tidewater, Via Appl. Mtns I & II & I am overwhelmed - I don't know what to say -- except I'm mighty glad that I'm RETIRED!

Why? I've not read the whole 6-7 pounds -- but if it says in there somewhere that the main purpose & responsibility of the F.S. is to maintain or improve in perpetuity the quality of the soil and its ability to receive precipitation and disperse it in an orderly manner to vegetation,

Comments on Alternatives: in an orderly manner to vegetation, ground water and stream flow, and if the text explains how to meet this responsibility it's a worthwhile statement (DEIS). But I couldn't find such a statement, or any concrete evidence that the F.S. recognizes this responsibility even yet.

Too bad that so many gov't agencies have screwed up. Other: that EISs seem to have become necessary! I can see it for COE, Highway Depts., Nuc. Industry etc. -- but for the USFS -- it wouldn't be needed if you would just keep in mind that the "greatest good" -- in the long run -- depends on the basic resources of soil & water.

Why? Sorry I could not help more specifically! There's just too much detailed "scientific" information -- and the area & variety of situations too broad for me to fathom! (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Note - I'm stamping this because I'm not sure this is the kind of reply your looking for -- but I hope it's worth the tear at perforation 25¢ stamp -

CAF

C. Allan Friedrich USFS Retired

Name: First Al Last Friedrich
 Street Cumming, Ga. 30130
 City State Zip Code

after 33 yrs
 mostly in
 watershed
 related
 work.

Response to Comments in Letter No. 232

From: C. Allen Friedrich

Comment No.

Response

- 1 With one exception (Draft EIS page IV-154), the EIS does not discuss the Forest Service's responsibility to maintain long-term soil productivity. The main purpose of the EIS is to disclose the environmental effects of vegetation management. It discloses effects of the 5 vegetation management methods on soil and water in great detail on Draft EIS pages IV-86 to IV-116. It discloses effects of the 8 alternatives on soil and water on Draft EIS pages IV-130 to IV-150 (summarized in table II-8, Draft EIS page II-77). These sections, plus the section on mitigation measures (Draft EIS pages II-43 to II-66) tell how practices on the ground can be applied to protect soil and water quality.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Well written - to the point - clear
Very informative -
Too little information on visual impact
esp. on Alternatives methods here
Applied to URM
Too little information comparing
"plantation" growth vs "restoration" forestry

Comments on Alternatives:

USFS assumes that management
practices are necessary and good
if in keeping with good planning
strategy and careful attention to
analysis.

Why? I personally believe that management
practices are, in themselves, neither
good nor bad - necessary or not
Other: necessary. Objective should
define necessity and site specific
situations should govern the methods
used. And methods used should
only be applied where "natural"
management cannot occur.

Also, in the long term, sustainability
of our forest resources is being compromised
by USFS management practices.
(Use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: First MI Last (Organization)

331 Arch

Street

Gainesville, FL 32611

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 233

From: Lester L. Linscott

Comment No.

Response

- 1 Comments noted. This EIS was written within the scope of decisions listed on page I-3. In Forest Land and Resource Management Plans visual resource management can be tailored to a more specific area, and as site-specific analyses are done for projects, they can be further refined to a particular situation.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives: I urge you to adopt Plan B because it calls for less use of herbicides rather than more. Living immediately below Forest Service lands, I'm very concerned with environmental health hazards. More & more we are discovering short & long term damage to ourselves & other living beings from man-made chemicals. Why? We should be cautious & trying in all possible ways in putting these chemicals into our environment.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address ☐ and drop in the mail ☐ postage necessary).

Janifer Ann Morgan
 Name First MI Last (Organization)
2050 Howard Branch Rd
 Street
Durham, NC 28714
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 234

From: Jenifer Ann Morgan

Comment No.

Response

- 1 The commenter's preference for alternative B was included in the content analysis of all comments received. Alternative B does have some of the favorable effects listed. It also has effects considered unfavorable by other commenters. Pages II-76 and II-83 of the Draft EIS summarizes the positive and negative effects of alternative B. More detailed summaries of impacts of each alternative begin on page IV-130 of the Draft EIS.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1; and Letter No. 221, Comment No. 2.

2-2-59

To Whom It May Concern,

I was appalled when I found out that our Forest Service sprays herbicides on thousands of acres of national Forests. I strongly oppose this action. Our forests must be left intact as they are what is keeping our Earth as "normal" as it is. Does anyone in the Forest Service ever think about the future? Does anyone ever think about what these deadly chemicals actually do to our environment? Do you really think we can keep polluting and polluting and everything will be ok? Wake up and look around and notice the impact we humans are having on our environment. Can anyone deny that our weather patterns are strange? I could go on and on. I hope you will begin a program of natural control, if control is needed, in our forests. A program with a future for mankind.

Sincerely,

Susan Warren
Larry Manning
Kevin Warren

Response to Comments in Letter No. 235

From: Susan Warren, Larry Manning & Karen Warren

Comment No.	Response
1	Your concern about herbicide use has been included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. This EIS is in part a review of about 20 years of herbicide use by the Forest Service in Region 8. It looks at both past and proposed program levels and has helped us define clearly where potential risk occurs within the scope of our program. This, in turn, allows us to keep to a minimum any potential for adverse environmental impact from the use of herbicides. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

U.S.D.A. Forest Service
VMT Room 382 South
1720 Peachtree Road N.W.
Atlanta, Georgia 30367-9102

To whom it may concern;

I strongly oppose both ground and aerial spraying of herbicides in the National Forests. These are extremely toxic chemicals whose detrimental present and future impact on human health, wildlife, plant ecology, and water systems has not been responsibly assessed. I advocate the use of other means of controlling unwanted vegetation that have a less negative impact on the total environment.

Sincerely, Susan Warren

My address is: Rt 1 Box 238
FLAT ROCK, NC 28731

Reproduced from poor document.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, if you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Analysis was generally good, considering the large area involved and the tremendous number of species and habitats. More details would have resulted in a document that was not practical to read in its entirety.

1 Why?

The section on fire should have revealed how much is planned for slashburning and how much is underburning. Also, among the underburning, the portion in hardwoods vs. pine should have been spelled out.

Comments on Alternatives:

2

My choice among the 8 alternatives presented is Alternative "B". My reasoning is that an expenditure of \$50-60 per acre as predicted for alternatives C-H is not an economical use of public funds except on the best sites. Conversion of less productive hardwood sites to pine may sometimes make economic sense, but at the expense of other resources. In my opinion, there are vast acreages of poorer sites that should be managed on a fairly frequent underburn fires to reduce the wildfire hazard. The only thing I do not like about Alternative "B" is that too little fire (only about 0.4% of the total) is burned each year. I hope you can somehow increase to at least 2% as the beneficial uses of fire in hardwoods become better known and accepted. I spent an afternoon in the field with Dave Heighen at Piedmont National Refuge last week discussing fire in hardwoods. The results are impressive and should be applicable in a lot of the Appalachians. As fire technology, such as the "ping-pong ball" method from helicopters progresses, I would think that all areas adjoining highways and other areas prone to accidental wildfires should be underburned at least every 5 years. Getting back to economics, \$50-60 per acre is far too much to spend at the beginning of a 100 year hardwood rotation to be economical. While such an expenditure may be okay in short rotation pine, I think the recent pine beetle outbreaks and the lousy market for shortwood would make you think twice about pine monoculture, especially on hardwood sites. I think the Forest Service should leave pine monoculture to the private sector and focus on hardwoods. If what you are doing is uneconomical anyway, it may as well produce something that the private sector will want to use.

3

Enclosed is a check for \$10.00 to return this comment sheet. Fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Robert L. Downing
 Name: First Last (Organization)
 114 Lewis Rd
 Street
 Greenville, SC 29631
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 251

From: Robert L. Downing

Comment No.

Response

- 1

Slash burns comprise all prescribed fires done for site preparation for pine or hardwood. Grass burns are confined to balds habitat. Underburns are all other prescribed fires. Using this information, one can see how much of each type is done in each alternative by consulting the tables on pages II-4 to II-19 of the Draft EIS. In addition, the acres in each category are explicitly stated under "Wildfire and Air Quality" in section IV.N (Draft EIS pages IV-130 to IV-150). How many of the underburn acres would be in hardwoods is hard to predict, but it should be less than 5 percent of all underburns in alternatives C (current) and D (Draft preferred).
- 2

The commenter's preference for alternative B was included in the content analysis of all comments received. Alternative B does have some of the favorable effects listed. It also has effects considered unfavorable by other commenters. Pages II-76 and II-83 of the Draft EIS summarizes the positive and negative effects of alternative B. More detailed summaries of impacts of each alternative begin on page IV-130 of the Draft EIS.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
- 3

The issue of pine monoculture is outside the scope of this EIS. Please see scope of decisions on page I-3 of the Draft EIS.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

inadequate attention given to risks posed by increased use of herbicides - especially when aerial application methods used.

Why? long term effects unknown, data lacking of effects on many vertebrate & invertebrate species. Risks of drift, spill, contamination of surface and ground water not given sufficient weight.

Comments on Alternatives:

alternative D should be unacceptable.

Alternative F should be preferred.

Why?

D depends too heavily on use of herbicides, & still the many unanswered long term questions about herbicides, & other.

Other: F is the more prudent option.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Robert J. Savage
 Name: First Last (Organization)
 2569 Fairmount Rd
 Street
 Winston-Salem NC 27106
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 252

From: Robert J. Cowan

Comment No.

Response

- 1 The commenter's preference for alternative F was included in the content analysis of all comments received. Alternative F does have some of the favorable effects listed. It also has effects considered unfavorable by other commenters. Pages II-76 and II-83 of the Draft EIS summarizes the positive and negative effects of alternative F. More detailed summaries of impacts of each alternative begin on page IV-130 of the Draft EIS. Also see response to comments in Letter No. 522, Comment No. 1; and Letter No. 261, Comment No. 2.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1; Letter No. 177, Comment No. 2; and Letter No. 560.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

It appears that the analysis of management on vegetation in this publication was very thorough. Sometimes though I wonder if we are not too thorough with our feelings that we need to manage the forests to fulfill real and why? perceived areas of need in the forest itself. I understand

that in public use of land alone we must have management. But now we feel we must cut roads every where, we must must, harvest timber even

Comments on Alternatives: with no profit but loss to the public. we must cut trees on water sheds to increase runoff. We must not forget if allowed parts of the forest cannot manage itself. I like alternative A for this reason but I

also realize that we shall never keep our hands totally off of why? forest management. I also like alternative B for the same reason but I don't like the use of herbicides. But I think that the forest service won't give this one

much consideration either. I like alternative E for the other: low projected acres affected but here again we have large applications of herbicides which I do not like. I

like alternative F because of the non use of herbicides but total acres affected is larger. I feel that any use of why? herbicides must be very local with the least toxicity to other organisms. So personally I like A & B but realistically F and

then E. let use also not feel obligated anywhere to "manage" our forests for the good of private companies but at the expense of the forest environment. Thank you for listening.
(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Samuel Bryan Cathey
Name First MI Last (Organization)
Box 214
Street
Lake Tabor, NC 28747
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 253

From: Samuel Bryan Cathey

Comment No.

Response

- 1 Your order of preference for alternatives has been included in the analysis of all comments received. Please also see response to comments in Letter No. 1; Letter No. 177, Comment No. 2; and Letter No. 206, Comment No. 1.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis: I'm a 30-year-old male, single, living at about 1st of all, the woman who advertised "Collie" puppies was lying, out in East Columbia. We live in the "El Centro" part of town and do not have the high fencing it takes to hold an animal such as that, as I have seen on Pine Grove in Chatta.

Why? Because, despite having no neighbors, passerby to the S. of us on the Manchester Highway, a youthful male voice, (I've heard there are a lot of Bachlows of ugliness down here), said he didn't want "the brown furry dog". . . . The dog was killed along with it's traveling companion one block East of here on Hamilton Road soon thereafter, with the police in attendance, run over by a (large, if I may add. . .) car. They were probably hurried in the garbage dump.

Comments on Alternatives: Quit hollering your desires. After all, we paid out two hundred dollars for care and license of the animal, as well as \$45 dollars when my daughter fell in love with her when she was a puppy, we were living on the corner to the floor in the washer road of a nice house below Buena Vista Road. We are familiar with that neighborhood since we know a technician at the college who lived many years in Mexico with his Mexican wife Rose Marie and has three charcoal-headed sons, living at home without phone. Since then his wife has landed a good job at Fort Benning, Civil Service. Neither of us has jobs. You're just depressing a neighborhood where no one else would bother to live. So stay in your nice apartments. Your added pollution is an increased hazard to our health in this environment. Surely there are other stages in which to buy your frozen Pigeons from Bogota or wherever. They don't have other such as PCB. Cause I lost my left index finger nail trying to get Club Carriage at a to be a w e neck.

Why? Young black, some since having gone to prison, whose brothers have designated "M a m m a s a p r k a r e A. My typewriter is burning out. Also, I think people who leave us backwater lots ought to know what's better. I've applied my own to it with a Porter's Machine.

(use additional sheets as necessary)

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Fast DRAW FRAPPING

Name First MI Last (Organization)
4510 Beaulieu Avenue
Street
Columbia, GA 31904
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 254

From: Fast Draw Drafting

Comment No.

Response

- 1 The Draft EIS assesses the cumulative effect of a single tool or of multiple tools over time and space. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated tools pose minimal risk as long as mitigation measures (pages II-43 to II-65 of the Draft EIS) are enforced as we require.

SAME-DAY-AIRBORNE WOLF HUNTING PROHIBITED IN NATIONAL PRESERVES

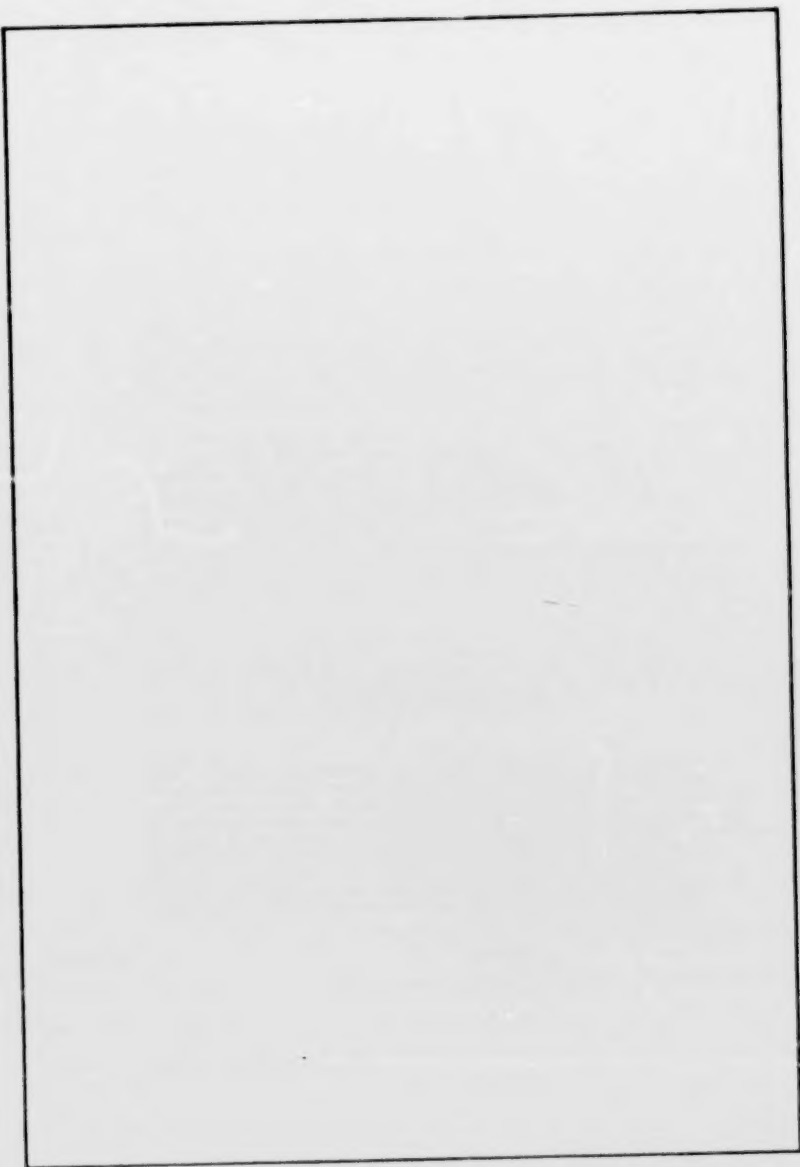
Same-day-airborne hunting of wolves in national preserves will be illegal after November 21, 1988 pursuant to a temporary restriction, [36 CFR 13.30(d)(1) and (2)(1)], implemented by the National Park Service. After November 21, 1988 it will be illegal in national preserves for any person who has been airborne to use a firearm to hunt or assist in hunting wolves until after 3:00 A.M. following the day in which the flying occurred. National preserves are units of the National Park System where sport hunting is authorized under federal law.

The restriction will be in effect in all Alaskan preserves. The preserves are Bering Land Bridge, Noatak, Gates of the Arctic, Glacier Bay, Yukon-Charley Rivers, Denali, Lake Clark, Wrangell-St. Elias, Katmai, and Aniakchak. The restriction is effective for one year, November 21, 1988 to November 21, 1989. State law currently prohibits same-day-airborne wolf hunting in Wrangell-St. Elias and Glacier Bay National Preserves.

The new federal law applies only to land-and-shoot (same-day-airborne) hunting of wolves. Other sport hunting continues to be legal in the preserves under state regulation.

For further information contact your local National Park Service office or National Park Service, Alaska Regional Office, 2525 Gambell Street, Anchorage, Alaska 99503.

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However you decide to respond, please help us by making specific and meaningful comments.

Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: Herbicides not to be used only where strictly necessary. Especially not by aerial use. Needs to be used by hand & our best land is very important to clean air.

Why? Because of the contamination of the water and vegetation that wild life eat and drink - our bird population is decreasing considerably.

Comments on Alternatives: when herbicides are used great precaution should be taken not to have containers in open gullies etc.

Why? To keep from killing grass or other vegetation edible to wild life - or let the containers get into streams as we see in our creeks at times.

Other: when mechanical used not to let the herbicide make trail through established grass as happened when Forest Service went across private land.

Why? There are so many dangers to what man has purposed to do to take manual labor out. For come many more places quicker. We are doing these things to

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John F. Carson ^{interested}
 Name First MI Last (Organization) ^{Retired}
 Route 1 Box 156 ^{white}
 Street ^{concerns}
 Odellville, IL 36420 ^{about the}
 City State Zip Code ^{future}

Tear at perforation

Response to Comments in Letter No. 255

From: John E. Cason

Comment No.

Response

- 1 Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-58-65 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment. Also please see response to comments in Letter No. 1.

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RESPONSE FORM

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Comments on Scientific Analysis:

We appreciate the study on herbicides prepared by Labat-Anderson, Inc. It should be obvious that this study points out very serious questions posed by the US Forest Service recommendation involving the use of herbicides on 26.3% of 130,323 acres of National Forest property to be treated each year in the Southern region, approx. 35,000 acres.

Why?

The data gaps acknowledged on pages IV 3-15 of the DEIS make it clear that the herbicides proposed for use present both a KNOWN AND UNKNOWN danger to residents of areas close to the treated National Forests.

The known danger of mutations, cancerous and benign tumors and other adverse health effects point to serious unknown effects which will

Comments on Alternatives:

appear only after the pesticide use.

We strongly support the proposals calling for the primary use of manual and mechanical means of treating the area to be affected each year. The manual approach would not only limit environmental hazards but would provide much-needed jobs to people in the rural areas of

the 8-state region. The logic is clear. Closely controlled burns are an acceptable alternative, but the primary method of treatment in all conscience must be manual.

Why?

No one alternative offered by the US Forest Service appears to be 100% satisfactory. However, of the 8 alternatives presented to the people, Alternative F comes closest to dealing with the hazards involved in treating our environment with an Agent Orange-like substance.

Fire, a terrifying prospect to property owners, is at least a seen enemy.

Other:

We own 47 acres of wooded land close to Forest Service property, and we deeply fear the contamination of our land. However, the problem is much greater than that of a concern for personal health and property. The destruction of forests worldwide is a global problem of immense proportions. We must at least save our own forests.

There is still time to save our own National Forests. If the US Forest Service will listen to the people, take the responses to their proposals seriously, our forests will remain the national resource they were intended to be.

(use additional sheets as necessary)

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Joan F. Byrd

Name First MI Last (Organization)

Mt. 66, Box 53B

Sheep
C. Cowhee, NC 28723

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 256

From: Joan E. Byrd

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Mitigation measures for the use of herbicides (pages II-58 to II-65 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

In the Final EIS, an additional mitigation measure has been added that limits herbicide use to only class A herbicides (table II-1) without Regional Forester approval. Also see response to comments in Letter No. 1.
- 2 Please refer to responses to comments in Letter No. 225, Comment No. 1; Letter No. 212, Comment No. 1; and Letter No. 57, Comment No. 3. Discussion of the effects of alternative E presented in chapter IV, (page IV-140 to IV-142) includes an overview of potential outputs of a low herbicide/fire, high manual/mechanical alternative.

February 6, 1989

FOR THE RECORD

A phone call was received today from Samuel Dempsey concerning the Draft EIS for Vegetation Management in the Appalachian Mountains. Mr. Dempsey wished to make his response by phone as follows:

1

1. Appreciate survey of rare and endangered species.
2. Would like to see more concentration on survey of existing plant life (variety of species).
3. Change of address: Samuel Dempsey
1604 18th Avenue, South
Apt D
Nashville, TN 37212

Ann Cason
ANN CASON
Program Assistant

Response to Comments in Letter No. 258

From: Samuel Dempsey

Comment No.

Response

- | Comment No. | Response |
|-------------|---|
| 1 | Comment noted. Mitigation measure number 2 in the Draft EIS, page II-44, requires utilization of survey data. |

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RESPONSE FORM

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Comments on Scientific Analysis: PROFESSIONALLY DONE. COMPLETE AND COMPREHENSIVE.

Why?

1 Comments on Alternatives: ALTERNATIVE D MAY BE PREPARED BY AIST BUT I HAVE RESERVATIONS.

Why? PENETRATION OR PERCOLATION OF HERBICIDES TO AQUIFERS. ALSO I DON'T BELIEVE THAT WE KNOW ALL THE LONG-TERM EFFECTS ON HUMANS DESPITE ALL THE R&D THAT HAS BEEN ACCOMPLISHED.

Other: AREA COVERED BY THIS STUDY IS RELATIVELY UNFAMILIAR TO ME.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

JASON N KUTACK AMSI SOCIETY OF AMERICAN FORESTERS
 Name: First MI Last (Organization)
1210, BOX 1401
 Street
HATTIESBURG MS 39402
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 259

From: Jason M. Kutack

Comment No.

Response

- 1 Your concern about alternative D with specific concern for potential herbicide effects on aquifers has been included in the content analysis of all comments received. See response to comments in Letter No. 22, Comment No. 2.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

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However you decide to respond, please help us by making specific and meaningful comments.

Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

1 Comments on Alternatives: As a former Forest Service employee, now retired 10 years I don't find any thing wrong with what the Forest Service is doing.
Why? Of course I understand conservation for 20 years and I can only say keep up the good work and I Other: will try to be a good forest steward.
I don't read much any more, but
Why? Thanks for Bulletins any way
Protecting
Blaine King

(use additional sheets as necessary)

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BLAINE - 494 - Retired U.S.F.S.

Name: First MI Last (Organization)

Ret. Box 22

Street

GREEN MOUNTAIN 2946

City

State

Zip Code

← Tear at perforation

Response to Comments in Letter No. 260

From: Blaine Ray

Comment No.

Response

- | | |
|---|---|
| 1 | The interdisciplinary team is pleased that you found the analysis well done and useful. |
|---|---|

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RESPONSE FORM

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Comments on Scientific Analysis: Generally tough; although ~~it~~ it would appear that the use of herbicides would require selectivity which precludes aerial spraying.

Why? because of numerous incidents of problems caused by drift and mistaken spraying in the private sector. Aerial spraying would appear contrary to how directing equal consideration to wildlife, recreation and all timber management values.

Comments on Alternatives: Alternative B is best for human & wildlife values & underground species. Management tools and methods are very selective.

Why? also input no use of industrial herbicides selective management, minimal changes in stream and underground water contamination. A lot of DDTs and other effects of herbicides unknown. So why use them until knowledge is complete?

Other: the consideration of increasing concentrations of CO_2 in atmosphere been considered in controlled burning?

Why? we must take steps everywhere we can to reduce concentrations.

(use additional sheets as necessary)

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Leamy G. Mabry
Name: First MI Last (Organization)
5224 Hansen-Flour Park Rd.
Street
Glenn County, CA 96033
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 261

From: Larry G. Mabry

Comment No.

Response

- 1 We appreciate the concerns you express for aerial and other broadcast herbicide methods. Please refer to the section in chapter II which lists mitigations required in all herbicide projects (page II-58 to II-65 in the Draft EIS). Please note specifically number 5 requires lowest effective use rate; number 6 requires favoring selective methods; number 7 requires use of herbicides with minimal human health and wildlife effects; number 16 which puts strict weather constraints on use; and numbers 3, 25, 27, and 30 which put very specific constraints on aerial applications. Low-risk use of herbicide is possible within these constraints. In the Final EIS the amount of area eligible to treat aerially on utility rights-of-way has been reduced to 400 acres annually and buffer widths at stream crossings have been increased to 200 feet.
- 2 Your preference for alternative B was included in the content analysis of all comments received. Please see response to comments in Letter No. 261, Comment No. 2.

None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-58 to II-65 in the Draft EIS. As stated in mitigation measure number 1 on page II-44 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides. An additional mitigation measure that requires class B and C herbicides (table II-1) be used only after Regional Forester approval has been added in chapter II of the Final EIS. Also please see response to comments in Letter No. 1.
- 3 See response to comments in Letter No. 41, Comment No. 3.

(title), Consider Maint.

Why not allow slow growing species such

- 4 as Cornus florida, Ilex opaca, and Carex canadensis remain. A kind of arena where they are not and have not interfered with power lines or do so. Get help shake out other species which would interfere. I do not agree with allowing the use of herbicides for utility line vegetation control because streams would be contaminated; slopes would be left unprotected and ecological glass species would be killed.

- 4 We certainly agree this concept be used where feasible. Please see mitigation number 2 on page II-51 of the Draft EIS.

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RESPONSE FORM

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Comments on Scientific Analysis:

- 1 You point out the doubts about safety of some herbicides & then proceed
Why? to recommend high doses — I find I'm the one asking "why?"

Comments on Alternatives:

- 2 - Very strongly feel you include too much pesticides/herbicides & too
Why? little mechanical/manual
We need jobs not poison!

Other:

- 3 - I also find myself wondering whether you are just going through the motions of getting public comment — or will you really respond to overwhelming public opposition to herbicide/pesticide use.
Why? (use additional sheets as necessary)

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MONROE T. G. Moore
Name First MI Last (Organization)
P.O. Box 1341
Street
Black Mt. NC 28211
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 262

From: Monroe T. Gilmour

Comment No.

Response

1 We do not recommend "...high doses..." of herbicide. Mitigation measure number 5 (page II-58 in the Draft EIS) specifically requires an overall reduction in per acre use rate of herbicides. Mitigations number 6 and number 7 (same location) also require procedures which reduce human risk from the present. Also see response to comments in Letter No. 1.

2 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Also see response to comments in Letter No. 22, Comment No. 1.

3 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS. See response to comments in Letter No. 22, Comment No. 1; Letter No. 41, Comment No. 1; and Letter No. 57, Comment No. 3.

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RESPONSE FORM

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However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 **Comments on Scientific Analysis:** The chemical way is the worst way for the time being but the chemical way makes the landscape look like the effects of the chemical will not show for some time. The bio info gives a feeling of what could be taken in by the animals, which may have the same effect as radiation or disease does on humans.

Why? I feel that we may end up getting a product of this chemical that is our substance to existence. The rate of accidents, leads me to believe that it would take years for long periods of time.

2 **Comments on Alternatives:** The most natural is the best, its existence is proven by the regeneration of plants through fires, which start from natural causes. The alternative that is most publicly acceptable would be (E), except for the cost. The (D) is just asking for an accident to happen with years of dangerous side effects to come.

Why? Nature has been doing well without our help. The only deviation would be in case of mass destruction. The (E) is the best because it could produce the safest and most useful. The (B) is too much of a chance of an occurrence of a D.D.T. incident to happen and a EPA gold mine.

Other: The recent fire in Willow Stone Park seem to have the natural effect of regaining fire resistance and more productive vegetation, which in turn improves the quality of the wildlife.

Why? It regenerates a better life for vegetation, and the burned look is for a short time. It is only need every 50 many years.

(use additional sheets as necessary)

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Thomas P. Green
Name: First MI Last (Organization)
800 Indian Lane
Street
Salisbury MD 21801
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 263

From: Timothy P. Green

Comment No.

Response

- 1 The scientific evidence presented in the Draft EIS does not support the commenters' conclusions. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. See Response to Letter No. 221.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
- 2 Effects of a "...natural is the best..." approach are shown in the evaluation of alternative A. See the summary of its effects on pages IV-130 through IV-132 of the Draft EIS.

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UNIVERSITY of KENTUCKY • COLLEGE of AGRICULTURE

Resident Instruction • Agricultural Experiment Station • Cooperative Extension Service
International Programs • Regulatory Services • Livestock Disease Diagnostic Center

DEPARTMENT OF ENTOMOLOGY
S-225 Agricultural Science Bldg. North (20916)
Lexington, Kentucky 40546-0091
(606) 257-7457

February 2, 1989

Mr. Steve McCorquodale
USDA Forest Service Southern Region
Suite 951, 1720 Peachtree Road NW
Atlanta, GA 30367-9102

Dear Mr. McCorquodale:

Re: Appalachian Mountains Vegetation Management Environmental
Impact Statement:

Thank you for asking me to comment on this EIS and for last week's reminder that comments are due February 17.

I am not an expert on Environmental Impact Statements and this was a learning experience for me. Some of the information in this EIS, particularly in regard to herbicide effects on honeybees, will be very useful to me.

1

I have no really negative comments. Some questions came to mind as I read through it, but most were answered later in the statement. I think I expected to see more emphasis on effects on endangered plant species, since we are dealing with herbicides. It is to be hoped that future research will answer some of the question marks in Table D-6.

Likewise, more research is needed on dermal absorption.

Generally I was impressed with the thoroughness of the statement.

Yours very truly,

Yours very truly,
Loraine D. Rodriguez

Lorraine D. Rodriguez
Pesticide Impact Assessment and
Pesticide Applicator Training

LDR: m

The College of Agriculture, University of Kentucky, Department of Entomology and Entomopharmacology, 100 Agriculture Science Building, Lexington, Kentucky 40546-0091. E-mail: shawn@pop.uky.edu

Response to Comments in Letter No. 264

From: Lorraine D. Rodriguez

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful. Your concern about threatened and endangered plant species and the need for more research on dermal absorption has been included in the content analysis of all comments received.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However, you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

The Scientific Analysis was complete.

Why?

Not a lot of unmeaningful comments and data also good references.

Comments on Alternatives:

A good overall view, not a narrow one line policy.

Why?

Something we all can live with and do a better job.

Other:

I reviewed the environmental impact statement about vegetation management and think those who had a part in this did an outstanding job.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Richard C. Williams, Jr. Esq. Power
 Name First MI Last (Organization)
PO Box 26666
 Street
155 Howard Ave 23268
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 265

From: Richard H. Moss, III

Comment No.

Response

- | | |
|---|---|
| 1 | The interdisciplinary team is pleased that you found the analysis well done and useful. |
|---|---|

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

1 Comments on Alternatives: *I recommend alternative 2 - no action.*

Why? *Let the forests be as they always have been - beautiful, natural. Growing, spreading and the water remaining pure. Without the built up structures polluting it. Harvest the Other: mature trees with as little destruction as possible. People need these forests to go to - to look at - to love.*

Why?

(use additional sheets as necessary)

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Forest Name Lee Forest
Name First MI Last (Organization)

Street *5921 Pinegrove Trail*

City State Zip Code
Chattanooga TN 37401

← Tear at perforation

Response to Comments in Letter No. 266

From: Fannie Lee Ford

Comment No.

Response

- 1 The commenter's preference for alternative A was included in the content analysis of all comments received. Alternative A does have some of the favorable effects listed. It also has effects considered unfavorable by other commenters. Pages II-76 and II-83 of the Draft EIS summarizes the positive and negative effects of alternative B. More detailed summaries of impacts of each alternative begin on page IV-130 of the Draft EIS.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

.. at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

- 1 One of the best indept studies that I have read. There was a great deal of work done on this project, and I like what you are doing.
- Why?

Comments on Alternatives:

- 2 I think Alternative "D" is the best approach. I think "A" would be stupid and neglect of duty. I realize the labor required would be much greater but landward application better than ~~Aerial~~ Aerial because of wind + water.
- Why?
- Time would be a factor, but the cut-surface approach would have less risk.

Other:

Sustaining where possible, but do not disturb soil would be my suggestion.

Why?

"how you disturb soil, you get soil erosion, so in my opinion, an effort should be made to prevent this."

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Gerald W. Witherspoon, Jr. U.S. Wildlife Fed

Name: First ML Last (Organization) 135 N. Lafayette St

Street Shelby NC 28150

City Shelby State NC Zip Code 28150

→ Tear at perforation

Response to Comments in Letter No. 267

From: Gerald W. Witherspoon

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful.
- 2 Your preference for alternative D was included in the content analysis of all comments received. Also included in the content analysis is your preference for the more selective manual treatments and for minimal soil disturbance tools.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I believe that it will take a much longer time than you have spent on this to date to determine a true scientific analysis of management of the Appalachian Mountains. (I'm impressed with all the reports, though.)

Why?

Perhaps ducks, bats, falcons, ect don't react as laboratory animals (mice ect.) do to herbicides. Also what about cumulative effects of herbicides?

Comments on Alternatives:

While Alternative A is my real choice, I shall compromise with Alternative F, because I realize that the farming of timber in the national forests is important and it is also important to keep the forest trails and recreational sites cleared for visitor use.

Why?

Other:

It is very re-assuring to me to know that vegetation management is done on only 2.5% of our national forest lands

Why?

Because I feel our wildlife benefits more from an environment where man leaves them alone.
Because old forests harbor more moisture.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Jane Ashford Howe

Name: First MI Last (Organization)
2310 Horsetree Place SE

Street: Lecatur, AL 35601

City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 266

From: Jane Ashford Rowe

Comment No.

Response

- 1 Analogy is a standard scientific method used to predict effects where there are incomplete or unavailable data. Modeling of effects from known information was done in all cases where scientific data were unavailable. Risks identified in this process are disclosed and considered in our analysis.

Neither cumulative nor synergistic effects have been reported for any of the eleven herbicides discussed. Short half-lives (except tebuthiuron) and rapid excretion rates for all of the herbicides suggest that neither synergism nor accumulation pose a problem. All data found in the literature and Region 8 accident reports has been included for consideration; no evidence of synergistic or cumulative effects has been discovered.
- 2 Your preference for alternative A and acceptance of alternative F as a compromise was included in the content analysis of all comments received. Also see response to comments in Letter Nos. 1, 266, and 177.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Impressed with the scope of the analysis.

- 1 Why? It was complete and fair in its representation of the various alternatives needed for proper vegetation management.

Comments on Alternatives:

Must agree with the professionals in choosing Alternative "D" at this time.

- Why? Its cost effectiveness and the minimal use of heavy machinery.

Other:

- 2 Why? If the government succeeds in creating another type of "CCC" organization, as recently mentioned, would then like to see more hand control and reduced use of herbicides.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

ARTUR KRIEDER
Name: First MI Last (Organization)
P.O. BOX 5622
Street
HENDERSONVILLE NC 28527
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 262

From: Arthur Friedman

Comment No.	Response
1	The interdisciplinary team is pleased that you found the analysis well done and useful.
2	Under the stated condition more manual work would be possible.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Good job.

1

Why?

Detailed and thorough analysis.

Comments on Alternatives:

Proper alt C

2

Why?

Approve use of herbicide but not convinced of application by our methods. I'm concerned about water quality of streams. I would be

Other:

concerned about improper chemicals being used, accidental spills, drifting winds, pilot errors, etc.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

JAMES M. SMITH
 Name First MI Last (Organization)
929 Hillcrest Ave
 Street
Birmingham, Ala. 35235
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 270

From: James H. Smith

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful.
- 2 Your preference for alternative C was included in the content analysis of all comments received. Please also see response to comments in Letter No. 38, Comment No. 2 which deals with mitigation of aerial application projects. In the Final EIS, aerial application of herbicides on utility rights-of-way is reduced to 400 acres (steep, rugged, and remote terrain where other methods are unsuitable) and buffers at stream crossings have been increased to 200 feet.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: In general the scientific analysis seems to be adequate. I would like to see a more thorough study on herbicides and a better way of managing the cutting of timber. The preparers are seemingly credible and qualified. I am happy with the Forest Service's interest in public participation.

Why? I believe that in order to conserve and to protect our forests everyone must take an interest and try to find the best solution. Hopefully the best proper management will be instituted and prosperity will have the legacy that it deserves.

1 Comments on Alternatives: Of all the alternative plans developed, I prefer Alternative B. This seems to be the plan that poses the least threat from herbicidal accidents and the least disturbance to the total forest habitat.

Why? The forests should be left in as natural a state as possible. Plant and animal population and habitation must be protected. Too often man has interfered in a destructive manner.

Other: I am a native to the mountain area of North Carolina and value the preservation of our forests. I realize that the people who work in timber related jobs or gather forest products must have access. However we must preserve the natural state as much as possible.

2 Why? It is imperative that we maintain the eco-system, preserve the threatened and endangered species and protect the forests in general. I oppose clear cutting not only for the decrease in visual appeal but the mass destruction of hardwood timber seems to create an imbalance since hardwood trees require such a long time to mature. Surely we can find a way to preserve the wonderful works of God. My thanks to you for allowing me to review the analysis (see additional sheets as necessary).

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Brenda S Forbes
Name: First MI Last (Organization)
P.O. Box 1304
Street
Andrews NC 28901
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 271

From: Brenda S. Forbes

Comment No.

Response

- 1 The commenter's preference for alternative B was included in the content analysis of all comments received. None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-58 to II-65 in the Draft EIS. As stated in mitigation measure number 1 on page II-44 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides. An additional mitigation measure that requires class B and C herbicides (table II-1) be used only after Regional Forester approval has been added in chapter II of the Final EIS.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

1 Comments on Alternatives: I WANT TO PICK ALT. C (CURRENT) RATHER THAN ALT. D (PREFERRED)

2 Why? REASONS: WE DO NOT NEED TO AERIAL SPRAY TO CONTROL MUDS, ESPECIALLY IN MT. TUS. THE RISK OF PUTTING CHEMICALS IN WATER IS TOO GREAT. ALT. C HAS THE LOWEST HERBICIDE RISK TO HUMANS. WE DO NOT NEED AN ALTERNATIVE THAT INCREASES OTHER: THE USE OF HERBICIDES OVER THE LAND MT. TUS. PLAIN. THE PUBLIC WILL NOT ACCEPT AN INCREASE OVER AND ABOVE THE PRESENT LEVELS. (LTP LEVELS). BY USING ALL SORTS WHY? OF MANUAL TREATMENTS AS SPECIFIED IN ALT. C WE WILL HAVE ENOUGH FLEXIBILITY TO KEEP HERBICIDE USE AT LEVELS SPECIFIED IN EACH LMP.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

JOHN D. GRAY (U.S.F.S.)
Name First MI Last (Organization)
RUEX BEX 8477
Street
BLAIRSVILLE GA 30512
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 272

From: John D. Gray

Comment No.

Response

- 1 Your preference for alternative C was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 In the preferred alternative, aerial application of herbicides is only permitted for use on large utility rights-of-way. In the Final EIS, its use (400 acres/year) is allowed only on steep, rugged, remote, and uninhabited areas where other methods are not feasible. An additional mitigation measure has been added that increases buffer width to 200 feet at stream crossings.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I think you have made a very competent analysis on the use of herbicides, use of land and water. I think you have done an adequate scientific analysis.

Why? The time involved in these studies proves to me that a great effort has been made to keep the public informed.

Comments on Alternatives: We are very much interested in the future of Appalachian mountains and these detailed studies are most interesting to us.

Why? We need to better understand what is being done and what needs are being met and what alternatives can be beneficial.

Other: It is a great concern to all of us that our mountain streams are cleaned up and that development be kept so as not to harm our beautiful mountains. We need to protect our natural resources to the best of our ability.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

John E. and J. Marshall
 Name First MI Last (Organization)
783 E. Indell Ave
 Street
Mooreville NC 28115
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 273

From: Joyce E. & J. Mack Wilson

Comment No.

Response

1

The interdisciplinary team is pleased that you found the analysis well done and useful. Your concern about mountain streams, and natural resource protection concerns have been included in the content analysis of all comments received.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

YES YOU HAVE DONE A VERE GOOD JOB IN THE PAST AND PRESENT ,SO KEEPING THE GOOD THINGS GOING UNTIL THE FULL INTENT IS ACHIEVED,AND THE ALTERNATIVES HELPS ONE TO RESPOND TO EACH OF THE FACETS OF THE TOTAL PACKAGE.
YOU HAVE THE NATURAL RESOURCES,WHICH IS THE FORESTS,THAT IS GROWING TO FULL MATURITY,IN TURN NEEDS HARVESTING,TO BENIPET THE NEEDS OF OUR WHY? FELLOW CITEZENS,AND ASSOCIATES,SO THAT WHEN THIS GOAL IS REACHED WE CAN INJOY THE BENEFITS,AND CAUSES US TO WHAT IS DEFINED ALIERTY.
ALT.D,IS A CHOICE OF THE CTS SELECT FOR,
MY SUGGESTION IS TO GET AWAY FROM THE USE OF THE USE OF THE HELICOPTER DUE TO THE EXPENCE AND THE OF THE DANGER THAT WE HAVE WHEN WHEN WE MAKE AN ERROR,AND I PREFER THE INCREASE OF THE USE OF ANIMALS IN HELPING
Comments on Alternatives: CONTROLLING THE BUILD UP DEBRE THAT BECOMES A FIRE HAZARD,I BELIEVE WE CAN DEVELOPE ANIMAL ENEGERY TO HELP OUR GOALS, I NAME THIS ANIMAL RESORCES,
NOW LET US ADDRESS ONE OF THE MOST IMPORTANT SUBJECTS,WHICH IS,TOOLS.
TOOLS THAT ARE THE BEST, USED TO ACCOMPLISH OUR INTENT ARE TO BE MAINTAINED THE BEST,AS WELL AS THE TEAM WORK ALSO IS OR SHOULD BE THE BEST,THEN WE WILL BE THE GREATEST DEPARTMENT IN THE NATION
Why?

Other: I WOULD LIKE TO SEE THE BORD FEET OF TIMBER INCREASED TO ABOUT 20 MILLION BOARD FEET.
BECAUSE MANNY TREES GET WEAK WHEN MATURED DIE AND ARE WASTED.
ABSO WOODEN HOUSES ARE DESTROYED MANY WAYS ,AND NEED REPLASING.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name First MI Last (Organization)

Street

City State Zip Code

Tear at perforation

Jackson, Miss. 39201 (PR#28X)18

Response to Comments in Letter No. 274

From: Roy Melvin Pennington

Comment No.

Response

- 1 Your preference for alternative D was included in the content analysis of all comments received.

As a result of comment by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
- 2 In the Final EIS, helicopters are permitted on only steep, rugged, remote, and uninhabited utility rights-of-way where other vegetation control methods are not practical. The total projected use is 400 acres annually. General forest treatment is not allowed.
- 3 Without appropriate mitigation measures grazing can cause adverse impacts to vegetation, soil, and water resources. Four mitigation measures are required (d. Biological Method, page II-65 of the Draft EIS) are designed to protect these resources. However, due to the unavoidable impacts of the heavy grazing required to release seedlings (and the overall non-specific nature of the process) grazing was eliminated from the list of usable tools in the Coastal Plain/Piedmont forests. We expect that balds will be the only grazed areas in the Appalachians.
- 4 The issue of volume of timber harvest is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

← Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

1

Impressive

Why?

Comments on Alternatives:

Reasonable

Why?

Other:

Well done.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

D. A. Clement
 Name First MI Last (Organization)
Rt 1, Box 184
 Street
Snake Ferry, N.C. 28460
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 275

From: D. A. Clement

Comment No.

Response

- | Comment No. | Response |
|-------------|---|
| 1 | The interdisciplinary team is pleased that you found the analysis well done and useful. |

Route 1 Box 283
Ellenboro, N. C. 28040
February 2, 1989

Forest Service, USDA
1720 Peachtree Road, NW
UMI, Room 3625
Atlanta, Georgia 30367-9102

Gentlemen:

1 Thank you for the materials you sent me concerning Vegetation Management in the Appalachian mountains. You are to be commended for the thorough job you did in compiling the materials - a monumental task indeed. Thank you also for giving me an opportunity to have input into your overall planning.

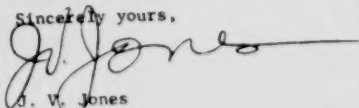
Let me state up front I am an avid grouse hunter and trout fisherman. Therefore, my ideas are naturally oriented toward what will be beneficial to them.

Here are my opinions:

- 2 1. I do not oppose clearcutting or logging roads as long as they are done in such a way that erosion, etc. are kept to a minimum.
- 3 2. I favor habitat improvement in areas where laurel and rhododendron choke out all other vegetation.
- 4 3. I do not oppose the use of herbicides and insecticides when they are extremely necessary. They should not be used on vegetation which is beneficial to wildlife.
- 2 4. Trout streams should be protected from the above and also safeguards regarding logging should be exercised to protect the streams.
5. I do not favor replacing hardwoods with pines, however, small areas of pines make excellent game cover and are to me acceptable.

Thank you again for giving me the opportunity to give you my opinions. I feel for you in trying to satisfy so many different interests.

Sincerely yours,



J. W. Jones

JVJ:rtj

Response to Comments in Letter No. 276

From: J. V. Jones

Comment No.	Response
1	The interdisciplinary team is pleased that you found the analysis well done and useful.
2	The issues of clearcutting, allocation of areas for vegetation rehabilitation, and cover type selection or preference are discussed in the Forest Land and Resource Management Plans of each National Forest.
3	Mitigations found on pages II-58 to II-65 (of the Draft EIS) severely restrict herbicide use to favor human and wildlife health and safety and to promote environmentally responsible usage.
4	Mitigation numbers 7-13 (pages II-54 and II-55 DEIS), numbers 1-8 (pages II-56 and II-57 DEIS), numbers 27-34 (pages II-64 and II-65, DEIS), and numbers 1 and 2 (page II-65, DEIS) are all designed to protect water resources (including trout streams).

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I THINK THAT ANY OF THE METHODS MENTIONED CAN BE USED IF USED WITH REASON. THERE ARE STILL MANY ACRES OF TIMBERLAND THAT NEEDS ATTENTION. IT NEEDS TO BE CULTIVATED JUST AS ANY OTHER CROP IS CULTIVATED. I WOULD GO WITH ALTERNATIVES C. OR D. WHY? THERE ARE MANY ACRES WITH ~~SCUB~~ SCRUB OR LOW GRADE TIMBER, OR LYY + LAUREL THICKETS THAT NEED TO BE CUT OFF AND RESET IN GOOD TIMBER.

Comments on Alternatives:

I THINK THAT IT IS GOOD TO TEAR UP THE GROUND IN SOME CASES (WITH MACHINERY) BECAUSE IT CAUSES VEGETATION TO GROW REAL FAST, AND TREES LATER.

Why?

Other: I DON'T KNOW HOW WELL THE FOREST SERVICE HAS DONE COST WISE, BUT SEEING THE JOB THAT IT HAS DONE IN GROWING TIMBER WITHIN THE LAST FORTY YEARS WHY? I WOULD SAY A MORE POWER TO YOU.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

W. Jay Jennings
 Name First MI Last (Organization)
 Street W JAY JENNINGS
 31 HURKICUTT RD
 FRANKLIN, NC 27534
 City State Zip

← Tear at perforation

Response to Comments in Letter No. 277

From: H. Jay Jennings

Comment No.

Response

- 1 Your preference for alternative C or D was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 **Comments on Scientific Analysis:** WHAT RESEARCH HAS BEEN CONDUCTED TO ANALYZE THE SOIL INTERACTION WITH HERBICIDAL CHEMICALS AND THEIR MIXES. I.E. WHAT KIND OF SOIL FERTILITY IS LOST AFTER APPLICATION, WHAT ^{GENERAL} MICROORGANISMS ARE ADVERSELY AFFECTED & TO WHAT EXTENT.

Why? I DON'T BELIEVE ENOUGH EVIDENCE IS AVAILABLE TO SUBSTANTIATE THE SAFETY OF HERBICIDE USE OR THAT HERBICIDES DO NOT ADVERSELY AFFECT THE SOIL ENVIRONMENT

Comments on Alternatives:

Why?

2 **Other: COMMENTS ON HERBICIDE USE.** I AM CONCERNED ABOUT UNKNOWN SYNERGISTIC EFFECTS THAT HERBICIDES CREATE WHEN MIXED WITH VARIOUS SURFACTANTS AND/OR SOILS AND THE

Why? SOIL'S BUFFERING CAPACITY AT APPLICATION. ANOTHER CONCERN I HAVE IS CONTRACTOR APPLICATION PROCEDURES.

I DO NOT FEEL THE FOREST SERVICE HAS ADEQUATE STAFF PER POLICY TO ASCERTAIN SITE QUALITY CHANGE AFTER USE OF CHEMICAL OR TO "WATCH DOG" CERTAIED APPLICANTS (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

SAMUEL W. BREYERLE

Name	First	Middle	Last	(Organization)
	4677	HIGHLAND	RD	
Street	WINNEBAGO CA 30506			
City	State	Zip Code		

Tear at perforation

Response to Comments in Letter No. 278

From: Samuel H. Brayfogle

Comment No.	Response
1	The information presented in appendix C, page 10, discusses soil and herbicide interactions and lists several research references.
2	The Forest Service's herbicide program has been ongoing for more than 25 years. During that time, not one documented case of synergism has been reported within the program. None of the 11 herbicides evaluated has shown scientifically reproducible significant adverse synergistic effects when used in an appropriate manner. The Forest Service, in concert with universities and other agencies, has developed an extensive training and certification program required for applicators and contracting officer representatives. See mitigation measure numbers 11 and 12 on page 11-61 of the Draft EIS.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: DATA FURNISHED BY THE CHEMICAL

INDUSTRY ASSURING US OF THE SAFE & RAPID BREAKDOWN

OF THESE AGENTS HAS OVER & OVER AGAIN PROVED TO BE FLAWED. LONGER-RANGE INDEPENDENT STUDIES SHOULD BE DONE.

Why?

1

→ BECAUSE ONCE HEALTH & ENVIRONMENTAL DAMAGE HAS BEEN DONE, IT IS OF SMALL CONSOLATION TO THE PUBLIC TO SAY "SORRY, WE MADE A MISTAKE."

Comments on Alternatives:

2

USE ALTERNATIVES REQUIRING LESS FIRE & LESS CHEMICALS. THESE TOOLS ARE LIKE CAPITAL PUNISHMENT: IT

MIGHT NOT BE SUCH A BAD IDEA IF THERE WAS SOMEWAY TO

Why? GUARANTEE THAT JUSTICE WOULD ALWAYS BE DONE; BUT

ONE SERIOUS INCIDENT OF MISMANAGEMENT IS TOO HIGH OF A PRICE TO PAY. IT WOULD BE BETTER TO DO NOTHING, WHICH

Other: IS REALLY NOT ACCEPTABLE EITHER. THE FOREST SHOULD

BE MANAGED, BUT WITH CARE. WE HAVE A LOT OF

PEOPLE IN THIS COUNTY WHO REALLY NEED JOBS AND

Why? ARE WILLING TO WORK HARD FOR MEAGER WAGES.

MANY HAVE A LIFETIME OF EXPERIENCE CULTIVATING

VEGETATION WITH HAND TOOLS. YES, I KNOW IT'S THE LATE

20TH CENTURY — ALL THE MORE REASON TO USE PROVEN METHODS!

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

DARRY WOOD

Name First MI Last (Organization)

RT. 3 BOX 333

Street

HAYESVILLE, NC 28904

City State Zip Code

Tear at perforation

Response to Comments in Letter No. 279

From: Darryl Wood

Comment No.

Response

- 1 An extensive literature search was conducted for research on the subject of herbicides. In addition to consultation with EPA, both Labat-Anderson, Inc. (LAI) and the Vegetation Management Team exhaustively searched the scientific literature concerning health effects of herbicides. Inquiries were made of 21 library and toxicology data bases (DB) including: Medline, Toxline, Embase, Hazardous Substances DB, Registry of Toxic Effects of Chemical Substances DB, BIOSIS Previews, CAB (Commonwealth Agriculture Board) Abstracts DB, and Enviroline DB. Chemical company data was included, but only as a supplement to this literature search.

Additionally, scientific evidence presented in the Risk Assessment and the EIS supports the position that the herbicides evaluated in this EIS can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-58 to II-65 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

- 2 As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS.

Please see response to comments in Letter No. 1; and Letter No. 166, Comment No. 3.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1

Comments on Scientific Analysis: A bit verbose - is it meant to convey or conceal information? my favored methods of vegetation control are: manual, mechanical, fire, and herbicide
Why? in that order

2

Comments on Alternatives: Why do your favored alternatives of spraying opposite to the people's wishes? We do not need to continue wasteful, polluting practices. People need jobs - therefore, Why? put them to work with manual methods of control. Please stop favoring a few business individuals and

3

Other: promoting short term profits over long range public interest in forests and already endangered by the acid rain from industrial pollution. We do not need further destructive management practices such as clearcutting and heavy use of herbicides (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

NAME: MORA H. TIERES
First Last (Organization)
75 W. DE HAVEN DR
Street
FRANKLIN, N.C. 28734
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 280

From: Myra H. Jones

Comment No.

Response

- 1 The interdisciplinary team views its writing assignment as equal in importance to the analysis. Good communications is a top priority. While many reviewers commented that this very complex technical subject has been handled very well, some may still find it overly complex. The summaries on pages lll through xvi of the Draft EIS attempt to address this problem.
- 2 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS. Please see response to comments in Letter No. 1; and Letter No. 41, Comment No. 1.
- 3 Please see response to comments in Letter No. 169, Comment No. 3.



1418 First Tennessee Building
Chattanooga, Tennessee 37402

February 3, 1989

Vegetation Management E.I.S.
1720 Peachtree Road, NW
Atlanta, Georgia 30367-9102

Dear Sirs:

I am writing this response on behalf of the Appalachian Chapter of Trout Unlimited, and also in my capacity as the Southern Regional Coordinator for the Federal Public Lands Task Force of Trout Unlimited, a national organization whose principal offices are in Vienna, Virginia. In approaching your plan, I would examine it in two parts. Initially, I will address what I consider the real "meat" of the proposal, the General Management Requirements and Mitigation Measures as set out on pages II-43 - II-66. After discussing these, I will go on to talk about the alternatives suggested.

With regards to the "General Management Requirements and Mitigation Measures" beginning on page II-44 of the draft E.I.S., I would applaud the first four statements. In particular, statement 4, recommending the use of "best management practices" to maintain water quality, which is near and dear to the heart of any trout fisherman. Moving along, though, a number of deficiencies seem to present themselves. Initially, Section 10, relative to channel stability, does not seem to take into consideration the fact that fall downs, and other "natural debris," comprise a major source of necessary cover for wild trout habitat. In fact, in working with Forest Service representatives in conducting "stream improvement" work, one of the major ways to improve the stream was to put trees into the stream and anchor them to the bank. This natural "debris" provides not only cover, but a source of nutrition for the insects upon which the trout feed. In addition, "slash accumulations," particularly in intermittent and ephemeral watersheds are important means of filtering sedimentation before it reaches the perennial stream. It certainly should not be removed from intermittent streams where this important function is being performed.

"Section h. corridors" fails to address what is probably the most important problem currently existing in our Southeastern National Forests relative to water quality. That problem turns on sedimentation of the streams that emanates, not so much from the timber activity, as from existing roads that

Response to Comments in Letter No. 281

From: W. Bradley Weeks

Comment No.

Response

- 1 Mitigation measure number 10 (Draft EIS pages II-47 and II-48) is designed to reduce channel erosion by retaining bank stability and avoiding flow-diverting channel obstructions in perennial and intermittent streams. It doesn't require existing instream debris to be removed; it only prohibits further additions of non-natural slash by vegetation management (chiefly post-harvest site preparation). We recognize the value of well-regulated supplies of large woody debris to streams to create cover and pool habitat, but site preparation should not be used to place such debris in streams. Despite the required filter strips along perennial and intermittent streams (Draft EIS pages II-54 and II-57), deposits of woody debris in intermittent streams via timber harvest, and in ephemeral streams via timber harvest and site preparation, may still occur.

- 2 Existing roads are the main water quality problem in most Appalachian watersheds. This fact is supported by the cumulative effects analysis for sediment (table IV-17, Draft EIS page IV-115). The EIS covers management of roadside vegetation on cut and fill slopes, but not of road surfaces or drainage features. Given these constraints on what the EIS can address, we believe our mitigation measures provide as much stream protection as is practicable. Measure number 22 (Draft EIS page II-51) requires permanent vegetation on all surfaces of intermittent service roads when they are closed and on cut and fill slopes of all roads. Measure number 8 (Draft EIS page II-57) requires a filter strip along all perennial and intermittent streams. Measure number 30 (Draft EIS page II-64) ensures that only manual tools and mowing, which expose virtually no soil, may be used within 30 horizontal feet of perennial and intermittent streams. No soil-disturbing tools are allowed to manage vegetation along roads or trails or in utility rights-of-way in any alternative (Draft EIS pages II-2 to II-19), so mention of sediment-reducing mitigation measures is not needed for them.

Vegetation Management E.I.S.
 Page 2
 February 3, 1989

are constructed along and within Riparian areas. Most of the time these are old Forest Service roads constructed before any consideration was given to their impact on the adjoining streams. These roads, particularly in the Cherokee National Forest, are the major source of sedimentation in the stream. No consideration is given to the fact that roadside maintenance within these existing corridors should be conducted very delicately. Much of this roadside maintenance will be easily within five to ten feet of the actual stream bank. Removing any vegetation that can provide even minimal filtering capacity to the road generated siltation, would be wrong. Trails, service roads, and utility rights-of-way are considered within this section, but nothing is mentioned about these stream, problem areas of existing roads and maintenance along them.

- 3 Moving into, "Method-Specific Management Requirements and Mitigation Measures," we have very little objection to the use of prescribed fires where it is done in an efficient manner as set out in these prescriptions. We would emphasize that in particular under paragraph 7 that some slash and the "litter and duff" of the forest floor should be retained throughout the area under consideration. Slash can be very useful in improving the filtering capacity in intermittent watersheds. If it is stacked and placed in those intermittent and ephemeral stream channels, it can prevent erosion and ultimately add nutrients into the system. This is particularly important where the run off, or projected run off, will be concentrated in an ephemeral stream channel. It can also be true of an access road where it leads from a main road that adjoins a stream. This is a common practice in our area and should be taken into consideration when the temporary access road is closed.

- 4 On page II-57, the last sentence of paragraph 8 does not take into consideration intermittent or ephemeral stream channels which should be locations for the deposition of soil.

- 5 Under the "corridors" section there should be a prohibition of any mechanical, or other means of treatment within at least thirty (30) feet of a stream channel. This is particularly true where roads adjoin, or are in very close proximity to, stream channels. I understand that safety considerations dictate right-of-way maintenance, but generally the road will not adjoin the stream throughout its length, but only in certain spots. Strong consideration should be given to maintaining vegetation to provide a filtering capacity between the road and the stream.

- 6 In turning to page II-58, "Herbicide Method," of Vegetative Management, I must applaud the Forest Service for the great length to which they have gone to attempt to explain their herbicide use. I am sure that it is the source of a great deal of criticism since I, myself, fear this form of "unnatural" control more than any other. I suppose that such fear is based primarily on ignorance and lack of familiarity. One knows what a chain saw can and cannot do, but one

- 3 Mitigation measure number 11 (Draft EIS page II-54) requires a filter strip that will be very effective in retaining the woody debris and forest floor along perennial and intermittent streams. Measure number 7 (same page) will keep sediment delivery to ephemeral streams at very low levels, as shown by our analysis and in actual practice on the Andrew Pickens Ranger District in South Carolina. Stacking slash in ephemeral streams to enhance sediment storage would be enormously expensive, and only marginally useful in view of the protection already provided by measure number 7.
- 4 Measure number 8 prohibits deposition of soil and debris in streams by mechanical equipment, as required by Federal regulations to protect water quality and channel function.
- 5 As stated in response number 2 above, no soil-disturbing tools may be used to manage vegetation in corridors; and only manual tools and mowing, which expose virtually no soil, may be used within 30 horizontal feet of perennial and intermittent streams.
- 6 We appreciate your position. Much unfavorable press has sensitized all of us to the simple mention of any "...icide" (herbicide, insecticide, rodenticide, etc). As a balance, please see the literature referred to in the response to comments in Letter No. 169, Comment No. 2.

Vegetation Management E.I.S.
Page 3
February 3, 1989

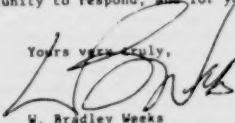
has no knowledge of the long term effects of these various herbicides. At least not the average citizen. It does seem a bit ludicrous to raise strong objections when you have very little rational basis for asserting those objections and therefore I will simply restrict my comments to stating that even though I have read every word of both books I am not convinced that all the answers are in on herbicide use.

7

The majority of the draft Environmental Impact Statement addresses a comparison to the various alternatives presented. After reading the comparisons I feel that the most acceptable, least dangerous to water quality and to the future of the forests is not the chosen or "preferred" alternative, but rather Alternative E. Exposure risks and pollution risks must be thoroughly minimized to the greatest possible extent. There is simply not enough land left in the East to expose what is left to even a minimum threat from those who are charged with the responsibility of protecting it. Particularly when one considers the extremely delicate condition of the Southeastern Trout Fishery, man induced risks cannot and should not be tolerated.

I want to thank you for the opportunity to respond, and for your reasoned approach to this delicate issue.

Yours very truly,



W. Bradley Weeks

WBW/erf

Your preference for alternative E and the reasons for that preference was included in the content analysis of all comments received. Alternative E does have some of the favorable effects listed. However, alternative E does have some effects such as high risk to worker injury and more frequent retreatments by manual treatments for some activities that are considered unfavorable by other commenters. Pages II-79-83 of the Draft EIS summarizes the effects of the alternatives. More detailed summaries of impacts of each alternative begins on page IV-130 of the Draft EIS. Also see response to comments in Letter No. 281, Comment NO. 7.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

The commenter's preference for alternative E was included in the content analysis of all comments received. Alternative E does have some of the favorable effects listed. However, alternative E does have some effects such as high risk to worker injury and more frequent retreatments by manual methods for some activities that are considered unfavorable by other commenters. Pages II-79-83 of the Draft EIS summarizes the effects of the alternatives. More detailed summaries of impacts of each alternative begins on page IV-130 of the Draft EIS. Also see response to comments in Letter No. 281, Comment No. 7.

2/5/89

Steve,

I am responding to your reminder about the copy of (EIS). I wish I could give you my heartfelt opinion, but as you know the book is very much in length and I have not had the time to really go through it fully. I have looked at it and read spots throughout it. The main concern that I am is to keep you the trails in BWNF for ORV use. I was heartbreakingly beautiful to come down and not let people enjoy the sites that are there it is unbelievable. But like I said I am real sorry I can't give you my up to date review. The book looks real good at this point and good management to come.

Thanks So Much
Chris Almond

CHRIS ALMOND

Rt 1 Box 1750

Ashland, VA 23005

Response to Comments in Letter No. 282

From: Chris Almond

Comment No.	Response
1	Thank you for your support. The issue of ORV trails is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest. You may also wish to contact the George Washington National Forest for specific information.

Appalachian Power Company
PO Box 2021
Roanoke, VA 24022-2121
703 985 2300



Mr. Steve McCorquodale
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA 30367

February 1, 1989

Dear Mr. McCorquodale:

Appalachian Power Company has reviewed the draft Environmental Impact Statement for the Appalachian Mountains and congratulates the Forest Service for the excellent manner in which it was developed. We agree that Alternative D is the most practical approach to managing USFS lands in this region. However, we would like to make several comments regarding Volume I, Section II, of the EIS.

1

1) Page 40, Paragraph 6: While referring to aerial application of herbicides it is stated "these controls are rather inexact when compared with manual ground operations." We feel that a trained pilot using calibrated drift control equipment has more control and is more exact than ground equipment provided weather restrictions are obeyed---herbicide rates are constant, application is more uniform, and potential drift is unlikely.

2

3

2) Page 59 - 60, Item #9: In reference to Endangered and Threatened Species habitat, we are concerned that permittees are aware of the location of the habitat.

4

3) Page 61, Paragraph 1: Regarding public notification: Will the Forest Service be responsible for all notification?

5

4) Page 63, Item 24: It is stated that "workers avoid walking through treated areas on the day of application." We feel that this should only apply to products with that precautionary statement on the label.

6

5) Page 63, Item 25: It is stated that "areas to be treated are clearly marked on the ground." We provide the pilot with a map identifying the location of all known restrictions. We feel this is a more effective method on rights-of-way.

7

6) Page 64, Items 28-31: We feel that buffer size should be dependent on material prescribed. All herbicides should not be restricted from karst areas, they should be based on label restrictions. We

Response to Comments in Letter No. 283

From: H. E. Colwell

Comment No.

Response

- 1 Your preference for alternative D was included in the content analysis of all comments received.

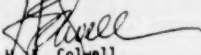
As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
- 2 While we would agree that a helicopter pilot has greater ability to see target areas, we do not believe that aerial application is more precise within the framework of mitigations required in this EIS (which include weather). Speed of application and shape of target areas will make it very difficult on aerial applicators who must follow the more restrictive aerial application buffering requirements. Please see response to comments in Letter No. 305, Comment No. 11.
- 3 Identification of threatened and endangered species habitat is an operational question which, under law, must be worked through at the project level.
- 4 Notification may vary by project. The intent is to ensure those who may possibly be affected are notified.
- 5 We have chosen to include this restriction to reduce potential worker exposure. Necessarily it applies to Forest Service crews, but we feel that it is a useful measure to increase the safety of all workers.
- 6 While recognizing the usefulness of maps, we felt that additional protection of sensitive areas was necessary. Size and frequency of buffers in the mountains is a prime concern here.
- 7 Mitigation number 29 has been changed in the Final EIS to prohibit broadcasting herbicides on sinkholes (which have the highest risk for concentrated inflow to ground water), not on entire karst areas. Any herbicide that can be mobilized by runoff in solution or on suspended sediment needs a buffer to minimize its entry to surface water, unless it is labeled for aquatic use. Since all the herbicides studied in the EIS can be so mobilized, we require buffers across the board. Buffers along intermittent springs and streams are needed because they can be important seasonal sources of aquatic habitat or drinking water. Research has shown 30 horizontal feet to be an adequate buffer width to protect water bodies from excessive herbicide contamination (Draft EIS volume I, pages IV-99 to IV-102 and volume II, appendix C).

Steve McCorquodale
February 1, 1989
Page 2

feel that buffers cited should apply to "soil active" products, but other materials should have smaller buffers. Finally, we feel that intermittent springs and streams do not require buffers and this statement should read "lakes, wetlands, and year-round springs and streams should have 50-foot buffers."

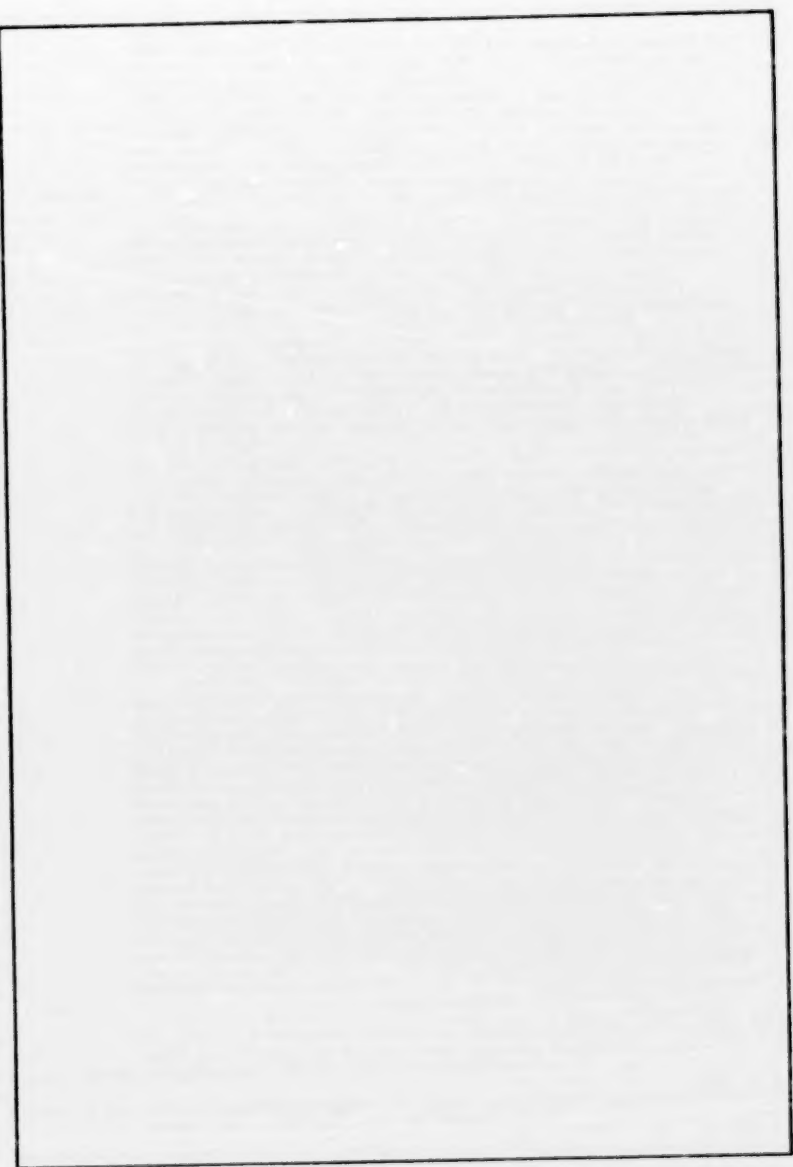
We appreciate the opportunity to comment on the draft Environmental Impact Statement. Please let me know if you have any questions.

Sincerely,



H. S. Colwell
Forestry C&U Superintendent

MEC:bh



PO Box 193
Patterson, NC 28661
704-754-0040

February 4, 1989

USDA Forest Service
1720 Peachtree Road, NW
Atlanta, Ga. 30367
Attn: Steve McCorquodale, Team Leader: Vegetation Management

Mr. McCorquodale:

After an extensive review of your Vegetation Management in the Appalachian Mountains, Volume 2, I would like to render the following observations and concerns. I found Appendixes E & D of interest. I was excited to learn almost 70 endangered or threatened species inhabit this region. The almost 16 species of threatened or endangered plants and several hundred you have listed as being sensitive to your proposed herbicide applications should flag out the delicate eco-system in this region.

- 1 The EIS also states where an adverse impact is indicated, other agencies will be contacted. Why is this not a standard USFS practice and how adverse would the impact have to be before outsiders are contacted? The EIS failed to establish guidelines.

QUESTIONS:

- 2 How will you warn hikers, campers, fishermen, birders, etc. of contamination dangers? Posting signs and running newspaper notices may still not inform the unsuspecting public of the health hazards of our forests. You failed to resolve the CANCER potential of 240 in your EIS report on page 3-17. Why are you using this cousin of Agent Orange with such frequency in our forests?
- 3 Next, your proposal does not specify experience requirements for those who will apply the herbicides. The USFS has had poor success with contractors, who will apply the poisons? Who will handle the spills and accidents you have indicated? Do you have Chemists on your staffs, and physicians, to reduce your guesstimates of adverse public effects to real world terms?
- 4 The potential for lawsuits seems great in this venture yet are not addressed in the EIS. Who will investigate and handle run-off stream contamination, over-spray poisoning, and ingestion by berry-pickers?
- 5 I understand much of this herbicide spraying will follow clear-cuts. Are you in effect killing the browse which your agency on the other hand says is beneficial to deer and wildlife? Your report also fails to adequately address the impact on fishes and wildlife species which call the National Forests of the South home.

After much thought and studying of your report, I am strongly opposed to Herbicide (genocide) in our National Forests. This is to aggressive for your agency to adequately undertake. STOP!

- 6 A concerned forest user.
Michael D. Faw
Michael D. Faw

Response to Comments in Letter No. 284

From: Michael D. Faw

Comment No.

Response

- 1 Various agencies including the Environmental Protection Agency, the Fish and Wildlife Service, and various Heritage (natural and cultural) agencies have proposed standards for use in project evaluations. The EIS analyzes certain low levels of impact to be acceptable. When impacts exceed these limits, consultation will be initiated to resolve the problem. This is standard Forest Service practice that the EIS has formalized.
- 2 Dangers of public exposure to our studied herbicides have been analyzed as minimal in EIS section IV.B. Much of this conclusion is based on mitigations requiring that only least-risk (class A) herbicides be applied at lowest effective rates (Final EIS pages II-61-62) with aggressive use of notification and buffers (Final EIS page II-65). 2,4-D will not be used except with Regional Forester approval, and only if no other treatment would be effective and all adverse effects are fully mitigated. It should rarely, if ever, be used at all.
- 3 Supervision and training requirements are specified on Draft EIS page II-61. These measures are largely responsible for our outstanding record of safety and precision in applying herbicides on national forests. No accidental herbicide spills have ever been reported in our Region, but certified pesticide applicators will take charge of cleaning them up if they ever occur. See chapter V for the list of those who prepared and reviewed the EIS and Risk Assessment.
- 4 The EIS is charged with analyzing and disclosing environmental effects, not the potential for lawsuits. Monitoring requirements are spelled out with mitigation measures (EIS section II.E.2.c). Monitoring will be done by qualified Forest Service personnel to ensure that mitigations are applied properly and effectively.
- 5 Herbicides used for site preparation and timber stand improvement, which follow timber harvest, will be 90-100 percent selective (applied directly to individual target plants). See Final EIS page II-11. Therefore, adverse effects on wildlife browse will be minimal. EIS sections II.D, II.E, and II.G disclose in detail effects on wildlife and fish and their habitats.
- 6 Evidence in the EIS indicates that low risk use of selected herbicides is possible when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data itself supports the position that herbicides can be used with minimal risk as long as mitigation measures (EIS section II.E.2.c) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Comments on Scientific Analysis: The vegetation management plan overall has been researched and planned in a way to protect water, soil, wildlife, and human health. The part of the research where scientific analysis is inadequate is herbicide risk.

- 1 Why? There are many gaps in information on the cancerous, mutagenic, breakdown products and other effects of herbicides. The Council on Environmental Quality's regulations (40 CFR 1502.22) requiring preformance of worst case analysis of potential negative effects of these herbicides is not an adequate measure to make up for the data gap.

- 2 Comments on Alternatives: Alternative F is a better alternative than the Forest Service's preferred alternative D.

Why? F uses no herbicides and most vegetation management is done by prescribed fire and manual control. Although manual tool accidents would increase the unknown effects of herbicides on worker, public, and environmental health could cause much more serious damage. Alternative D is not safe because of its use of herbicides which have unknown effects and the accident potential of aerial spraying.

- 3 F provides greater employment opportunities than D. F increases wildlife food and berry and fruit production for human recreation.

Other: The effects of prescribed fire and intensive mechanical site preparation on reptiles and amphibians should be a top research priority. Research on effective biological vegetation controls is also very important. If herbicides are used they SHOULD NOT BE USED IN WILDLIFE MANAGEMENT.

- 4 Why? Many reptiles and amphibians are declining throughout the South and unnatural fire and site preparation is suspected in helping to cause their decline. Biological vegetation control methods could be used by the entire forest industry as environmentally safe control methods. Because of the unknown effects of herbicides it would be safer to not manage for some kinds of diversity rather than subject wildlife to possible hazards.

Response to Comments in Letter No. 285

From: Kenneth M. Mills, Jr.

Comment No.

Response

- 1 We disagree with the commenter's conclusions. The provisions of 40 CFR 1502.22 do not require a worst case analysis be performed. The following steps are required:

"(b) If the information relevant to reasonable foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement: (1) A statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purpose of this section, "reasonably foreseeable" includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason."

The process described is generally accepted by the scientific community as adequate to fill data gaps where research costs are exorbitant.

- 2 The commenter's preference for alternative F was included in the content analysis of all comments received. None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-58 to II-65 in the Draft EIS. As stated in mitigation measure number 1 on page II-44 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides. An additional mitigation measure that requires class B and C herbicides (table II-1) be used only after Regional Forester approval has been added in chapter II of the Final EIS. Also please see response to comments in Letter No. 1.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 3 With respect to employment, see response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3.

- 4 Please see Draft EIS page IV-151, research needs #7, 13, and 14 for our emphasis on reptile and amphibian research and also see #12 concerning biological control (at present only goats and cattle, which are discussed, are available for biological control).

Class A herbicides applied at typical (lower) rates for habitat management are shown to pose only very low risk of directly affecting wildlife (chapters 6-8 of appendix A; summary in chapter IV Draft EIS pages IV-72, IV-83-85, and IV-99-106), and indirect affect potential is also shown to be low risk (Draft EIS pages IV-72-76). Class A herbicides can be used very effectively for selected habitat treatment such as to supplement midstory treatment for the threatened and endangered red-cockaded woodpecker. Such treatments are recommended by the U. S. Fish and Wildlife Service. Where threatened, endangered, proposed or sensitive species are concerned, additional care is required (mitigation number 2 on Draft EIS pages II-44-45; and number 9 on Draft EIS pages 55-60) beyond that required in non-sensitive areas (mitigations on Draft EIS pages II-44-65). Biological methods should be considered and used when they have been tested (see page II-42) adequately. Several biological methods are being researched now and hopefully they can be integrated into the other vegetation management tools soon.

Even though there are some data gaps in herbicides, we think that the risk assessment process has made very conservative estimates and the herbicide proposed can be used with acceptable levels of risk. Please see response to comments in Letter No. 480, Comment No. 3, for discussion on data gaps.

← Tear at perforation

DRAFT ENVIRONMENTAL IMPACT STATEMENT
VEGETATION MANAGEMENT IN THE APPALACHIAN MTS.
RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.

Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on
Enclosed Sheet

Comments on Alternatives:

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Kenneth M. Wills Jr.

Agency: Forest All Local (Organization)

5721 Dawson Ave.

Street: Anniston AL 36206

City State Zip Code

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: THIS IS A VERY ADEQUATE AND DETAILED STUDY COVERING ALL ASPECTS OF THE SITUATION. IT TAKES INTO ACCOUNT THE NUMEROUS CONCERNS AND ARRIVES AT SEVERAL ALTERNATIVES. WHY? THE STUDY IS DOCUMENTED AND SHARES WITH A GOOD REPRESENTATION OF THOSE CLOSELY CONCERNED.

1 Comments on Alternatives: I SUPPORT ALTERNATIVE D.

Why? IT APPEARS TO BE THE LEAST HAZARDOUS FOR MAN AND BEAST. HOWEVER, IT IS ONLY AS SAFE AS ITS SUPERVISION. EACH AREA TREATED SHOULD BE DUBLY MARKED AND ADVERTISED.

Other: HAVE YOU CONSIDERED PRESPRAYING WITH WATER AND AMMONIA OR SOME TYPE SAFE MATERIAL TO DRIVE THE WILDLIFE FROM THE AREA BEFORE TREATMENT? (BY AIR) IT WOULD ALSO WARN HUMANS.

2 Why? TO SAVE LIFE. IT WOULD ONLY BE STRONG ENOUGH TO GIVE A PERCENT OR DER AS A WARNING TO VACATE THE AREA BEFORE PRESCRIBED BURNING OR SPRAYING.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

William P. Weeks
Name First Last (Organization)
Rt. 4, Box 2264
Street
TALLADEGA, AL 35160
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 286

From: William P. Weeks

Comment No.	Response
1	Your preference for alternative D was included in the content analysis of all comments received. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS, its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
2	See response to comments in Letter No. 255, Comment No. 1. Since the process of herbicide application at typical rates (which is much less than label rates) is found to be low risk, further mitigation is felt to be unwarranted.

Route 3, Box 285
Candler, N. C. 28715
February 6, 1989

Mr. Steve McCorquodale, Team Leader
U. S. Department of Agriculture
1720 Peachtree Rd., NW
Atlanta, Ga. 30367

Dear Mr. McCorquodale:

Thank you for sending the Volume I and II of "Vegetation Management in the Appalachian Mountains" with request for comment.

I studied this material and when our Valle, Garden Club met, I gave a report on it. I also passed around blank paper with a request that members of the garden club express their attitudes, so it could be sent to you. The club met this morning; I hope to get this off to you tomorrow.

1 Two members (including myself) have voted for Alternative B, which would reduce but not eliminate use of pesticides and herbicides.

Six of the members voted for Alternative E, "Herbicides are not used. Manual and mechanical treatments increase to replace herbicides." The other members did not turn in any vote nor comment; on paper, that is.

2 There was a great deal of resentment and opposition expressed to having planes overhead, spraying chemicals over the forests and into the air and water. One lady told of an experience in Florida where she was affected severely in her breathing by such aerial application.

3 We live surrounded by forests. ~~Some~~ ^{Some} of it is our own property, and garden club members by definition have a great interest in proper maintenance and beauty of yards or acreage under our control. So we understand some of the problems. However, I was much impressed by the expressed opposition to placing more chemicals of any kind into the air, woods, or water. Some ladies said they preferred the weeds.

Thanks for giving us the opportunity to be a part of this study. If you or someone else wants to come talk to us, or have us help you, let us know. We care.

Sincerely,

Charles M. Rice

Mrs. Charles M. Rice
704-667-2378

cc: Jamie Clark

Response to Comments in Letter No. 288

From: Mrs. Charles M. Rice

Comment No.	Response
1	The preferences expressed in this letter for alternative B (two persons) and F (six persons) were included in the content analysis of all comments received. Also please see response to comments in Letter No. 261, Comment No. 2; and Letter No. 177, Comment No. 2.
2	Aerial application of herbicides in the Final EIS is proposed for only utility rights-of-way and only in rugged, remote, uninhabited areas where other control methods are not practical. The program is limited to 400 acres/year in the 5.2 million acres of Appalachian National Forests. See response to comments in Letter No. 261, Comment No. 1; and Letter No. 272, Comment No. 2, as they respond to aerial herbicide application within our proposed program.
3	Overall herbicide use is expected to be at approximately the same level as at present when quantity of herbicide is considered. However, mitigations which are of vital importance in chapter II of the Draft EIS reduce the rate of application per acre and increases the proportion of selective treatments compared to broadcast ones.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though! However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

The EIS is faulty in its conclusion about the safety of herbicides, and does not adequately justify its treatment objectives.

Why?

See attached discussion.

Comments on Alternatives:

Alternative B is recommended because it best protects soil productivity and water quality, and presents the least risk to humans and wildlife. However, it should be modified to completely eliminate the use of herbicides.

Why?

See attached discussion.

Other:

Why?

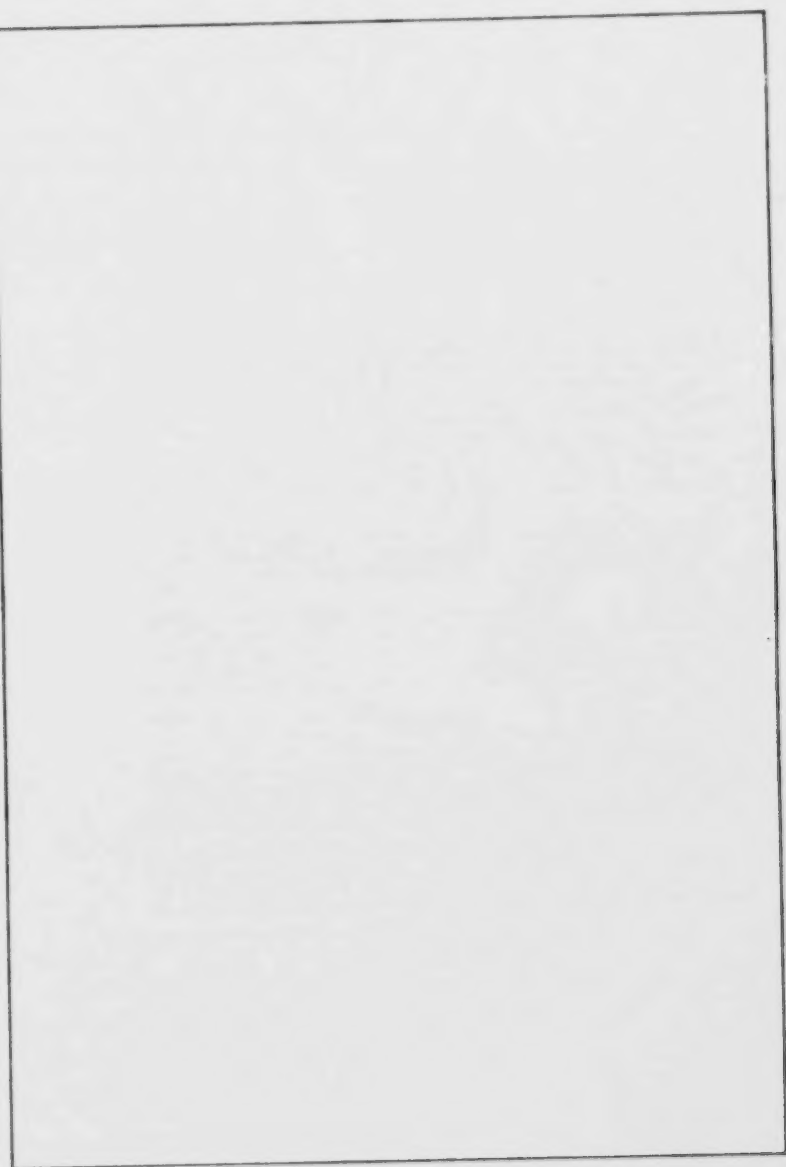
(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Frances E. Hallahan
Vice President, Atlanta Audubon Society

Name	First	Mi	Last	Organization
	1757		Coventry Rd.	
Street	Decatur, GA 30030			
City	State		Zip Code	

← Tear at perforation



COMMENTS ON DRAFT ENVIRONMENTAL

IMPACT STATEMENT: VEGETATION MANAGEMENT IN THE APPALACHIAN MOUNTAINS

COMMENTS ON SCIENTIFIC ANALYSIS

- 1 **Herbicides:** The draft EIS Summary maintains that all herbicides and additives are safe for the public, and terrestrial and aquatic wildlife, when applied using typical rates and methods. However, the report acknowledges considerable risk to workers using backpack sprayers, and increased risk to all species with aerial spraying.

- 2 In man, the physiological effects of exposure to 2,4 D; 2,4D-P; and dicamba (chlorophenoxy compounds) are irritation to the skin and mucous membranes. Ingestion of large amounts causes fever, Hyperventilation, vasodilation, and sweating. Severe cases result in coma and convulsions. It is reasonable to assure that wildlife exposed by aerial spraying will exhibit the same symptoms. Likewise, glyphosate (roundup) and tebuthiuron are both irritating to the eyes, skin, respiratory tract, and mucous membranes.

- 3 The EIS Summary maintains that buffers will protect surface waters, but it does not explain how buffers can be used with aerial spraying. Further, the report acknowledges that mitigation measures and biological evaluations will be necessary for protecting threatened and endangered plants that will be adversely affected by herbicides. The report fails to explain how mitigation measures can be accomplished, if they will succeed, or if they are cost effective.

- 4 An additional consideration in the use of roundup is the practice of burning weeds, trees, and brush following herbicidal applications. Smoke and gases from burning glyphosate are known to contain acetonitrile (methyl cyanide) and phosphorous pentoxide, as well as carbon dioxide, and water. Methyl cyanide is considered moderately toxic at 40 ppm in air. Phosphorous pentoxide is corrosive to the skin. In the presence of water it forms phosphoric acid, which is toxic by inhalation or ingestion, and is an irritant to the eyes and skin. Human tolerance is 1 mg per cc of air. It has been calculated by the manufacturer (Monsanto, 1983) that a normal application rate of five quarts per acre poses no threat to individuals exposed to gases from burning glyphosate-treated vegetation. However, this analysis did not account for smoke generated from burning concentrated amounts in unavoidable spills of the material. The report acknowledges that accidental spills are likely.

- 5 Since manual application causes considerable risk to workers, and aerial spraying causes considerable risk to endangered plants and terrestrial and aquatic wildlife, the only logical choice is no use of herbicides.

Response to Comments in Letter No. 289

From: Frances Hallahan

Comment No.	Response
1	The summary condenses data already presented in the document. Choice of the word "safe" in this context was unfortunate since safety can not be proven or even conclusively projected. Within the text "low-risk" has been used and corrections will be made in the final version of the summary. We recognize that there is risk from any management tool employed, however, risk management -- not zero risk -- is our chief concern. The document does not acknowledge "...considerable risk to workers using backpack sprayers and increased risk to all species with aerial spraying." It acknowledges risk exists in all management action or inaction, attempts to quantify the risk, and then requires mitigations which will reduce risk (chapter II).
2	See mitigation measure number 7 (page II-59 of the Draft EIS) which eliminates use of 2,4-D, 2,4-DP, and tebuthiuron except in extreme cases where no other vegetation management method is adequate (also herbicide mitigation measure number 7 in chapter II of the Final EIS). Effects of dicamba are less severe than those of 2,4-D or 2,4-DP (pages 8-7 to 8-8 of appendix A); page 8-8 also states that glyphosate poses only low risk to animals.
3	The EIS summary gives only a glimpse of data found in volumes I and II of the Draft EIS. Chapter II, part E, pages II-44 to II-66 of the Draft EIS contains management requirements and mitigation measures. This section is constructed so that following each measure or requirement (sometimes a group of 2 or 3 very similar requirements) there is a paragraph explaining the intent of the requirement, how effective the requirement is expected to be, and how monitoring will be conducted to measure accomplishment of intent. To provide for additional risk management, buffers at streams, trails, and road crossings have been increased to 200 feet in herbicide mitigation measure number 18 of the Final EIS.
4	Please refer to the Risk Assessment (appendix A, pages 4-61 to 4-63, 5-31 to 5-35, 5041, and summarized on pages IV-25 and -26 of the Draft EIS).
5	Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

- 6 Treatment Objectives: The EIS Summary cites that lack of treatment or reduced treatment (as in Alternatives A and B) will favor risk to late successional habitat and associated wildlife, resulting in an imbalanced mix of forest types. The preferred alternative would treat 130,323 acres, or 2.5% of the national forest land. However, a much greater proportion of the forest is affected by timber harvesting, which currently creates sufficient early successional stages to ensure varied habitat throughout the forest. The EIS fails to evaluate the role of timber harvesting in habitat manipulation, and fails to justify why further manipulation is required to create more early successional stages. Based on this inadequacy in the EIS, habitat management does not seem to be a valid treatment objective.

- 7 Valid treatment objectives are site preparation, elimination of competition, fuel reduction, and the maintenance of balds, vistas, utility lines, and recreational sites. The use of herbicides to maintain vistas, recreational sites, wildlife habitat, and balds (which also experience high recreational use) is particularly inappropriate because these are areas where people (and wildlife, in managed areas) are encouraged to cluster, and where they might be most exposed to the irritating or harmful effects of the herbicides. These areas should be maintained with mechanical, manual, or biological methods. Likewise, site preparation, reduction of competition, and utility line maintenance goals can and should be achieved by moderate use of mechanical, manual, and biological treatments. Fuel reduction in the normally moist Appalachian climate can easily be achieved by judicious use of prescribed fire of low to moderate intensity.

COMPARISON OF CHOICE OF ALTERNATIVES

- 8 Some management is recommended. In light of the above discussion, Alternative B, which treats the smallest number of acres, and where treatment is conducted only when critically needed at low intensity, is recommended. However, it is strongly urged that Alternative B be modified to replace herbicide treatments with biological or manual methods. Additional reasons for choosing Alternative B are that this Alternative best protects soil productivity and water quality, because only low disturbance tools are used, and undisturbed prevent severe wildfire effects. Finally, Alternative B has the lowest cost per acre of treatment, and the lowest total annual cost.

The EIS Summary does not justify maintaining the number of acres treated at current levels (approximately 130,000). However, if this is the acreage chosen, Alternative F, which does not use herbicides, is recommended. However, Alternative F would require careful selection of treatment methods to reduce soil erosion and water quality impact. Alternative F also has a slightly lower total annual cost than Alternative D, while treating the same number of acres.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 6 The Draft EIS discusses an annual program of 2.5% of the forest area covered by this subregional document. Activities subsequent to harvesting are included within that annual allotment and discussions of site preparation responds to the habitat manipulation required for the activities listed in page I-2 of the Draft EIS.
- 7 In chapter I of the Final EIS, we have greatly expanded a discussion of the activities where vegetation management is applied and the choice of tools appropriate for each. A site-specific analysis, mitigation measure number 1 on page II-44 of the Draft EIS, is required for each project that considers site-specific techniques, intensity, methods, and potential environmental effects of proposed action.
- 8 The commenter's preference for alternative B was included in the content analysis of all comments received. Each alternative has favorable and unfavorable effects. Please see comparison of alternatives, pages II-67-83, and summary of impacts by alternatives, pages IV-130-150, of the Draft EIS.

General Practice

W. Harvey Howell, M.D.

Covington, Alaska Air Center Suite 103

Route 7 Highway 41, Alaska

Covington, Ga 30120

Phone (404) 382,8011

General Surgery

2/8/89

Mr. John Alcock,
 USDA, Forest Service
 1720 Peachtree Road N.W.
 Atlanta, Ga 30367-9102

Dear Mr. Alcock,

1

On the issue of vegetative management please
 record my vote as being in favor of Alternative A.
 I believe there has been already far too much
 vegetative manipulation on our National Forests.

Respectfully,
 Harvey Howell M.D.

Response to Comments in Letter No. 290

Dr. Harvey Howell

Comment No.

Response

1

The commenter's preference for alternative A was included in the content analysis of all comments received. National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels. Also please see response to comments in Letter No. 266.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

- 1 Comments on Scientific Analysis: Scientific analysis was adequate but very biased towards the proposed alternative. Throughout the DEIS it was noted that the forest methods showed the compassion or respect for the safety of humans or the environment.
- 2 Why? Specifically, examples are given which state that sections will be met on BDE G and not on C or E. I hope the Forest Service is more concerned with public safety and environmental protection.

- Comments on Alternatives: It is obvious that Forest Service wants to increase herbicide utilization. Because so many important and so often a limiting factor in the riparian area, riparian and riparian areas are being destroyed. I would like to see a label.
- 3 Why? I really like the idea of stream flow on most of the after July 1 for site protection.

- 4 Other: I prefer alternative C or E with certain restrictions which include:

- Why?
- 1) no site prep (mechanical) on slopes
 - 2) practices and guidelines to avoid stream possible to increase stream
 - 3) wildlife openings and linear strips in placed in fertile, flat, areas
- (use additional sheets as necessary)

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Hugh R. Still

Name: First	MI	Last	(Organization)
1638	ESSA	DR	
Street			
Seneca SC 29678			
City	State	Zip Code	

Response to Comments in Letter No. 291

From: Hugh R. Still

Comment No.	Response
1	In order to allow for a full range of alternatives as required by the National Environmental Policy Act, some of the alternatives were more constrained (more mitigated) than others. To analyze alternative C (the current situation) in accordance with regulations, we had to evaluate things just as they were at the beginning of this study. The additional mitigations were added after reviewing available research material and prior to analyzing each alternative.
2	The Forest Service is indeed concerned with public and worker health and safety, and environmental quality. See mitigation measures and management requirements in chapter II.
3	The commenter's conclusions about browse are not supported by the scientific record disclosed in this EIS.
4	Your preference for alternative C or F and suggested restrictions were included in the content analysis of all comments received. Also see response to comments in Letter No. 177, Comment No. 2.
	As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: you have done a rather thorough job in this Draft Environmental Statement - Much of the information is technical and as such is hard to read - I'm happy to see that you have seen Forest management as Multiple Use of forest lands - Also that you use a wide range of methodology, practices, and Alternatives in the statement -

Please allow me to suggest my concerns -
1 - I am disturbed by the National Forest Service's in advocating that the US Forest Service be separated from the Department of Agriculture -

Comments on Alternatives: Dept. of Agriculture -
2 - I believe in limited Clear Cutting. I have seen areas 10 to 20 years after they have been cut. I like what I see -
3 - Management of forests to provide habitat for Native Wildlife is important particularly food sources -

Why? 4 - I am opposed to allowing Wild Hogs to spread in National Forests. They simply do too much damage -

5 - I am opposed to large areas of US Forest Service land going into Wilderness areas. Removing trees for the National is a major responsibility. Small areas of Wilderness should be included in the Multiple Use concept -

Other: 6 - I am concerned about insects and diseases of our forests. Particularly about the Western Balsam Aphid, the Spruce Moth, and the Southern Pine Beetle -

Why? 7 - I would like to see the US Forest Service set up a Forest Research Station emphasizing (a) Superior Tree Breeding (b) Acid Rain, possible solutions and selected other problem areas in the Appalachian Mountains -

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Robert L. Lyday ^{Retired} County Agent + Farmer
Name: First Last (Organization)
Box 1860
Street
Bryson City NC 28713
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 292

From: Robert L. Lyday

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful.
- 2 Most of the seven issues you cite are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest. The issue of wildlife habitat management is however within the scope this EIS. See page 1-2 and parts C, D, and E of chapter IV in the Draft EIS.

Tear at perforation

RESPONSE FORM

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However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: you have done a rather thorough job in this draft Environmental Statement - Much of the information is technical and as such is hard to read - I'm happy to see that you have seen Forest management as Multiple Use of forest lands - Also that you use a wide range of methodology, practices, and Alternatives in the statement -

1 Please allow me to suggest my concerns - I am disturbed by the Nation's Forest Service's in advocating that the US Forest Service be separated from the Department of Agriculture -

Comments on Alternatives: Dept. of Agriculture - 2 - I believe in Sustained Clear Cutting. I have seen areas 10 to 20 years after they have been cut. I like what I see - 3 - Management of forests to provide habitat for Native Wildlife is important, particularly food sources -

2 Why? 4 - I am opposed to allowing Wild Hogs to spread in National Forests. They destroy a lot of much damage -

5 - I am opposed to large areas of US Forest Service land going into Wilderness areas. Removing trees for the Nation is of major importance. Small areas of Wilderness should be included in Multiple Use concept -

Other: 6 - I am concerned about insect and diseases of our forests, particularly about the Spruce Bark Beetle, the Spruce Meth. and the Southern Pine Beetle -

Why? 7 - I would like to see the US Forest Service set up a Forest Research Station emphasizing (a) Superior Tree Breeding (b) Acid Rain possible solutions and select other problem areas in the Appalachian Mountain range -

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Robert L. Lyday ^{Retired} - County Agent + Foreman
 Name: First Last (Organization)
 Box 1260
 Street
 Bryson City NC 28713
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 292

From: Robert L. Lyday

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful.
- 2 Most of the seven issues you cite are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest. The issue of wildlife habitat management is however within the scope this EIS. See page I-2 and parts C, D, and E of chapter IV in the Draft EIS.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1

I commend you on the amount of work covered in Scientific Analysis, and the study give each appendices

Why?

Because of the need for good and safe vegetation management.

Comments on Alternatives:

I believe A through H gives a wide range of alternatives to choose from.

Why?

This is good for each Forest and District should have a choice to select from.

2

Other:

Steve McGovern this is quite a way from working on radios for you on Black Warrior District in Alabama but enough keeping up with Forest Service. My most concern is Herbicides.

Why?

Because of the dangers that could come for the use.

3

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

CLARENCE F. KING JR. Retired USFS

Name: First MI Last (Organization)

Rt 1 Box 202

Street

Arista FL 32321

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 293

From: Clarence F. King, Jr.

Comment No.	Response
1	The interdisciplinary team is pleased that you found the analysis well done and useful.
2	While eight alternatives are evaluated, only one alternative is selected for implementation. Selection is made by the Regional Forester, is presented to the public in a Record of Decision, and when implemented will apply to all forest lands listed on page III-1 of the Draft EIS.
3	Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

January 30, 1989

23 No. Oak Forest Dr.
Asheville, N.C. 28803U.S.D.A. Forest Service
TNT Room 362 South
1720 Peachtree Road N.W.
Atlanta, GA 30367-9102

Dear Forest Service:

1 I was shocked to learn about the widespread use of herbicides in our national forests. These forests preserve natural areas of undisturbed habitat for plants and animals and provide places for wholesome recreation and enjoyment of nature. In the recent past, logging and other uses of the national forests have expanded to become threats to a valuable treasure-pristine nature. Herbicides are extremely toxic chemicals with far-reaching environmental impact. In my opinion, they have no place in this setting.

2 Herbicides are a recent development, and they have not been studied long enough for us to know their effects. People have been quick to implement new techniques for "controlling" nature, looking only at the small picture of convenience, profit, etc. Later, looking at an expanded picture, they have found that these techniques have created long-term negative consequences.

3 We breathe herbicide fumes from roadsides, farms, and lawns. We consume food, and sometimes water, containing measurable herbicide residues. Some people who work with herbicides have had their skin "burned" into welts from accidental exposure. According to some scientists, there is a "possibility that herbicides which have been cleared for use because they do not contain these toxins (dioxins), actually contain dioxin precursors which may, once they are in the environment, be changed into dioxins." (See the enclosed article, "Dioxins, A Toxic Shock", by Rick McGuire) How long will it be before we know the effects of herbicides on human health?

4 Do we know the effects of herbicides on our natural environment? How toxic-and traumatic- are they to deer, squirrels, birds, earthworms, or soil microbes? How do they affect the total ecology-plant and animal-of an area? Many species of plants and animals are endangered, partly due to decreased habitat. Poisoning their remaining habitat may lead to their extinction. How can we even think of preventing herbicide run-off into water supplies through a myriad of springs, streams, and underground waterways?

These questions must be asked- and answered responsibly- before these chemicals are sprayed on the ground and from the air.

Response to Comments in Letter No. 296

From: Ellen M. John

Comment No.

Response

- 1 As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Herbicide use is really not that widespread in the Appalachian national forests. Even in alternative Modified D, which increases herbicide-treated acres by 20 percent over the present, only about 29,300 acres are projected for herbicide treatment each year. This is less than 0.6 percent of national forest land in the Appalachians. In 80-85 percent of these acres, treatment will be selective (directed to individual target plants) with negligible risks to the public and the environment. Mitigations in EIS section II.E.2.c restrict herbicides and their rates and means of application to have low toxicity and minimal environmental effects (EIS sections IV.B through IV.G).

- 2 Herbicides have been in use since the mid-1940's. While data gaps do exist and are identified in chapter IV of the Draft EIS, a significant body of scientific literature does exist about herbicides in general and also for each of our evaluated herbicides. The EIS and Risk Assessment consistently made conservative assumptions that deliberately overestimated adverse effects. Also see response to comments in Letter No. 407, Comment No. 1.
- 3 Some pesticides do have potential to cause such adverse effects, however, we present data specific to only 11 herbicides and 4 additives. With the further limitation to 8 herbicides and 4 additives approved for use within the structure of our mitigations (EIS section II.E.2.c), risks of adverse effects to people and the environment were analyzed as minimal. Also, the cited article by Rick McGuire is an editorial; it is not a scientific document relevant to the analysis in the Draft EIS.
- 4 The effects of the studied herbicides on plants, wildlife, soil organisms, and water are disclosed in EIS sections IV.C through IV.G. The analyses show that, with use of required mitigations (section II.E.2.c), risks of adverse effects are minimal. Threatened and endangered species and their habitat are protected from adverse effects by buffers (Final EIS page II-66) and by allowing selective treatments only (Final EIS page II-11).

5

Perhaps the national forests do not have to be "managed" as much as they are. Why should herbicides be used on the balds, if that goes against nature's course? In many counties where national forests exist, many people are in need of employment. Surely recreation areas, utility rights of way, etc., could be cleared by manual and mechanical means, giving people much needed work. In fact, the Draft Environmental Impact Statement recommended the use of manual and mechanical methods over herbicides and burning.

I urge you to take a serious look at these issues and to modify your original plan (to increase the use of herbicides and burning in western North Carolina's national forests). Let's create some places on this Earth where nature is free of human pollution and destruction.

Sincerely,

Ellen M. John

Ellen M. John

5

The mix of methods used on any given site is determined by a site-specific analysis (page II-44 of the Draft EIS) under the guides of a bald management plan (page II-52, Draft EIS). Herbicides are primarily used to control stump sprouting of manually cut vegetation or control briar encroachment. In recreation areas, the primary use is for control of poisonous plants, and in both cases treatments are 100% selective which are labor intensive. Herbicides are used on utility lines mostly to favor low-growing plants that require treatment less often.

Feb. 10, 1989

23 No. Oak Forest Dr.
Asheville, N.C. 28803U.S.D.A. Forest Service
VMT Room 362 South
1720 Peachtree Road N.W.
Atlanta, Georgia 30367-9102

Dear Forest Service:

Thank you for sending representatives to the Asheville meeting in Congressman Clarke's office Wed., Feb. 8. Many points were clarified during the discussion.

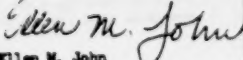
6 I do not understand your strong preference for herbicide treatments in the national forests. In light of the incomplete data in on the safety of these products (and some rather negative data), I urge you to look with open minds at the alternatives. I encourage you to develop an integrated pest management approach that makes creative use of ecologically sound measures, suited in each case to the area being considered.

We would be glad to set up another meeting in Asheville for continuing discussion of forestry practices. I know some very knowledgeable persons who would be glad to take part.

7 I am enclosing the petition that circulated in the Asheville area. As you can see from the over 800 signatures, many people feel strongly that herbicides should not be used in the national forests. Because the limited circulation of this petition attracted the interest of so many people, I feel it is valid to say that general public sentiment is against the use of herbicides in the national forests. I have sent copies of the petition to Congressman James Clarke, Senator Jesse Helms, and Senator Terry Sanford.

Thank you for the opportunity for public comment on your vegetation management plans. And thank you for listening and responding to this input.

Sincerely,


Ellen M. John

6 To compensate for data gaps, the Risk Assessment and EIS analyses consistently used conservative over-estimates of potential adverse effects. These analyses were subjected to rigorous scientific review and have broad scientific support for their cautious approach. With regard to Integrated Pest Management (IPM), please see mitigation number 3 on page II-46 of the Draft EIS. This measure requires that IPM principles be used during project planning. The mitigation measure also contains monitoring requirements. It is incorrect to assume the IPM strategies would minimize the use of herbicides. IPM strategies utilize a range of practices which include prescribed fire, manual, mechanical, biological, and chemical tools used alone or in combination.

7 The petition signers' concern about herbicide use has been included in the content analysis of all comments received. Please see our response to Letter No. 41, Comment No. 1.

With reference to the enclosures included with this letter, please see our response on the Rick McGuire article in comment number 3 above. For a listing of recent scientific summaries, see response to comments in Letter No. 169, Comment No. 2.

Feb. 15, 1989

23 No. Oak Forest Dr.
Asheville, N.C. 28803U.S.D.A. Forest Service
VMT Room 362
1720 Peachtree Road N. W.
Atlanta, GA 30367-9102

Dear Forest Service:

8 Aerial spraying of herbicides is a horror, and I and others will continue to protest plans to use it in the national forests until an ecologically sound alternative is found.

9 Aerial spraying is extremely inefficient, in that very little of the toxic chemical reaches target plant "pests", and much of it reaches non-target plants, animals, and the general environment. "Modelling" impact on an animal's health based on the criteria of total immersion of the animal in herbicide shows the ludicrous and invalid nature of computer "modelling". Let's face it: none of us humans wants to take a bath in herbicide or even have it "rain" down on our backs. Look at the lawsuits against the Forest Service in the Pacific Northwest which cite miscarriages and other serious health problems experienced by people who were in or near areas sprayed aerially with herbicides.

10 When one is talking about toxic chemicals being sprayed from helicopters onto national forest land, 900 acres out of 5.2 million acres is not a miniscule and insignificant area. Ten acres would be too much. There is very incomplete data in on the safety of the herbicides intended for this use.

11 Last but not least of all, I am concerned about the possibility of a low-flying helicopter loaded with herbicides crashing in steep mountainous terrain. That would indeed create a grave environmental crisis.

Let's look seriously at the dangers of ever-increasing use of toxic chemicals in our society. There are non-toxic, cost competitive, workable alternatives for vegetation management in the national forests.

Sincerely,

Ellen M. John

Ellen M. John

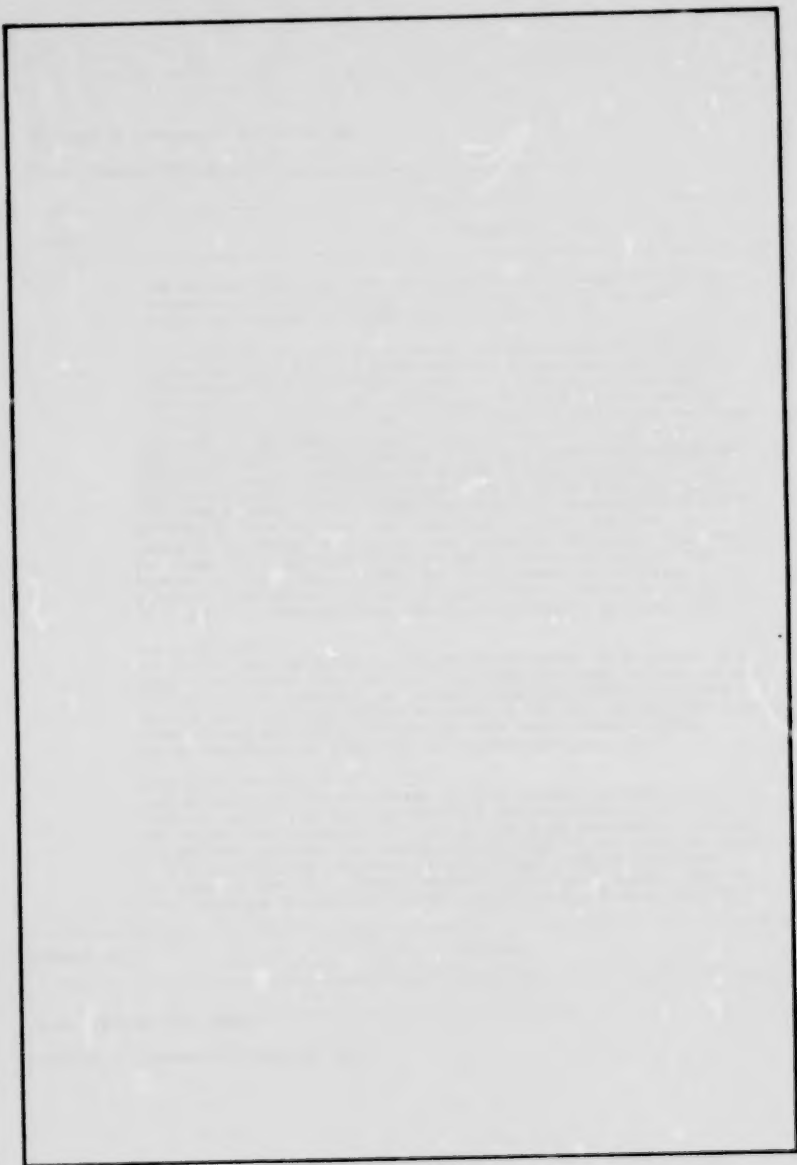
- 8 Aerial application of herbicides will be allowed only on utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced from 900 to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS). Please see our response to Letter No. 1.

Several mitigation measures and management requirements in chapter II are aimed at ensuring that aerial application is used responsibly and that adverse impacts are avoided. Especially see mitigation number 1 on page II-44, number 3 on pages II-58, and numbers 25, 27, 29, 30, and 31 on pages II-63 and II-64 of the Draft EIS. Please see also response to comments in Letter No. 38, Comment No. 2.

- 9 Although not target-specific, aerial herbicide application provides very efficient plant control (EIS sections IV.C and IV.M. Mitigations requiring use of newer nozzles that produce large droplets, in favorable weather, and with wide and clearly marked buffers (EIS section II.E.2.c) sharply reduce risks of drift and exposure of people and non-target species from the past. See figure 4-1 in appendix A, which shows a 97 percent reduction in potential spray deposition using a microfoil boom sprayer and a 200-foot buffer as we require.
- 10 We analyzed effects of directly spraying, not immersing, animals. In alternative Modified D, only 400 acres per year of utility lines in rugged, remote, uninhabited areas are projected for aerial application; this is less than 1/100 of 1 percent of national forest land in the Appalachians. Our analyses found a considerable amount of health data on the studied herbicides and combined this data with conservative over-estimates to evaluate the greatest foreseeable risks.
- 11 Helicopter tank dump of a fully loaded herbicide tank is evaluated in the Risk Assessment as an "accident scenario." Accidents indeed are potentially dangerous, but mitigations requiring an aerial operations plan and aggressive spill control (Final EIS pages II-67-68) will minimize their occurrence and their potential effects.

Please sign before Wed. Thanks

WE, THE UNDERSIGNED, STRONGLY OPPOSE BOTH GROUND AND AERIAL SPRAYING OF HERBICIDES IN THE NATIONAL FORESTS. THESE ARE EXTREMELY TOXIC CHEMICALS WHOSE DETRIMENTAL PRESENT AND FUTURE IMPACT ON HUMAN HEALTH, WILDLIFE, PLANT ECOLOGY AND WATER SYSTEMS HAS NOT BEEN RESPONSIBLY ASSESSED. WE ADVOCATE THE USE OF OTHER MEANS OF CONTROLLING UNWANTED VEGETATION THAT HAVE A LESS NEGATIVE IMPACT ON THE TOTAL ENVIRONMENT.



P.O. Box 335

Saluda, NC 28773

February 7, 1989

To whom it may concern:

- 1 I strongly oppose both ground and aerial spraying of herbicides in the National Forests. These are extremely toxic chemicals whose detrimental present and future impact on human health, wild life, plant ecology, and water systems has not been responsibly assessed. I advocate the use of other means of controlling unwanted vegetation that have a less negative impact on the total environment.

Sincerely,

Charlotte L. Brady

Response to Comments in Letter No. 297

From: Charlotte L. Brady

Comment No.

Response

- 1 Your opposition to herbicide use was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1 and Letter No. 560.

February 6, 1989

9955 Aired Rd.

Asheville, N.C. 28805

U.S.D.A. Forest Service
WMT Room 362 South
1720 Peachtree Road NW
Atlanta, Georgia 30367-9102

To whom it may concern;

1 I strongly oppose both ground and aerial spraying of herbicides in the National Forests. These are extremely toxic chemicals whose detrimental present and future impact on human health, wildlife, plant ecology, and water systems has not been responsibly assessed. If protective clothing and training of the applicators will be required, then you must realize the damage that the herbicides will do. I advocate the use of other means of controlling unwanted vegetation that have a less negative impact on the total environment.

Sincerely,
Suzanne Wianaski

Response to Comments in Letter No. 298

From: Suzanne Misnoski

Comment No.	Response
1	The proposed herbicides have very low risk and stringent mitigation measures are required on pages II-58 through II-65 of the Draft EIS. Please see response to comments in Letter No. 297. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.



U.S. Department
of Transportation
Federal Highway
Administration

South Carolina Division Office

1835 Assembly Street
Suite 756
Columbia, South Carolina 29201

February 3, 1989

IN REPLY REFER TO:

EA-SC

Mr. Steve McCorquodale
Team Leader
U. S. Forest Service
1720 Peachtree Rd., NW, Rm. 362 South
Atlanta, Georgia 30367-9102

Dear Mr. McCorquodale:

Subject: Vegetation Management Environmental Impact Statement

1 We have received the Environmental Impact Statement concerning vegetation management on national forests in the Southern Appalachian Mountains. We feel that this issue has no substantial impacts on the Federal-aid Highway Program in South Carolina and have no comments to offer at this time.

Sincerely yours,

Robert J. Probst
Division Administrator

Response to Comments in Letter No. 299

From: Robert J. Probst

Comment No.

Response

1 Comment noted.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Well organized and graded very good. While waiting for very valuable references, bibliography and charts useful information in Vol I Chapter III affected environment.

Why?

Excellent listing of Trees, Shrubs & Vines III-41-13:

Comments on Alternatives:

Agree with Alternative D as preferred.

Why?

when herbicides are used - the methods pose minimum risks to humans, wildlife and plants.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Herbert J. Sanborn

Name: First MI Last (Organization)

3541 Forest Dr

Street:

Alexandria Va 22302

City

State

Zip Code

← Tear at perforation

Reproduced from poor document.



THE STONE PRESS Herbert J. Sanborn February 5, 1989

Dear Mr. McCorquodale:

I am recipient of the EIS studies on Vegetation Management. I have put it with my other books and publications on garden, nurseries, wildlife, bird identification literature for reference. It is too technical for most of my interestes, however. My family have a 60 acre tract adjacent to the Shenandoah National Park and the Appalachian Trail, where we spend a lot of time enjoying the wilderness atmosphere and the beauty of the mountains. We joined with neighbors to have the oaks sprayed with *Bacillus Thuringiensis*)Bt(* We watch the black bear family trudge up to the Park to feed on apples in an old orchard. We flush Ruffed grouse and wild turkeys going and coming or disturb a rattlesnake or see copperheads sunning on the rocks. We watch hawks migrate and it is all a satisfying thrill to see. We hope we don't foul this environment- it must be saved.

Keep up the good work

Yours sincerely

Herbert J. Sanborn
Herbert J. Sanborn

1

** I find no mention of the gypsy moth invasion and efforts to cope in this EIS. Why?*

Response to Comments in Letter No. 300

From: Herbert J. Sanborn

Comment No.

Response

- | | |
|---|---|
| 1 | Thank you for your comments. The gypsy moth and its control are outside the scope of this EIS. A separate EIS has been prepared concerning treatment strategies for gypsy moth. It is available at this address, attention Forest Pest Management Staff Unit. |
|---|---|

Asheville, N C 28805
February 6, 1989

John E Alcock, Regional Forester
Steve McCorquodale, Team Leader
United States Department of Agriculture
Forest Service
Suite 951 - 1720 Peachtree Road, NW
Atlanta, GA 30367-9_102

Gentlemen:

Please don't feel that I am disinterested, but I have not been able to review the tomes you have submitted. Apparently considerable time and effort have gone into their compilation.

The timing on this project was unfortunate -- Thanksgiving, Christmas, New Year, tax reporting, and in my own case some health problems and the illness of a close relative. You probably are also aware of the deaths of valuable members which Carolina Mountain Club has experienced.

Throughout the Universe there is so much evidence of human bungling and lack of consideration of the environment that are guidelines of what should NOT have been done. Our fabulous concoctions from insect spray to nuclear weapons seem to be much more in control of our world than are we.

1 Surely our taxes are helping the Department of Agriculture employ personnel sufficiently informed to enable them to condemn practices which have brought us to the deplorable current condition of our vegetation and atmosphere so important in our total environment.

I am not really a crackpot most of the time but can "mount a soapbox" on occasion. I love the human race, but "we the people" are to blame for our troubles. Does History (or the Bible if preferred) indicate that except at the start did our Creator grant a life of ease? As much as I wish it could, it won't happen in my lifetime, if ever, but there must be a return to basics and physical effort by individuals -- and every project has to start with that "single step".

Aren't we paying you all enough to figure out a process to get thru to our population the necessity of doing something for ourselves? With little encouragement Oriental immigrants seem good at this.

I get enough flak as it is. Beyond your files you are NOT to allow my name to be connected with any of the foregoing altho you are free to pass it around uncredited either facetiously or seriously, as you wish.

Sincerely,

Name withheld at commenter's request.

Response to Comments in Letter No. 201

From: Name withheld at commenter's request.

Comment No.

Response

Your concern about environmental quality has been included in the content analysis of all comments received.



U.S. Department of
Transportation
Office of the Secretary
of Transportation

FEB 6 1989

400 Seventh St., S.W.
Washington, D.C. 20590

Mr. John E. Alcock
Regional Forester
U.S. Department of Agriculture
Forest Service
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

Dear Mr. Alcock:

1 Thank you for the opportunity to review the Draft Environmental Impact Statement for Vegetation Management in the Appalachian Mountains. The Department of Transportation has no comments to offer.

Sincerely,

Eugene L. Lehi
Eugene L. Lehi, Chief
Environmental Division

Response to Comments in Letter No. 302

From: Eugene L. Lehr

Comment No.

Response

1 Comment noted.

Dear Friends,

My Family and I enjoy going
camping & plan to go at this
summer. I was alarmed & distressed
to hear you plan to INCREASE your
1 spraying of herbicides in the NATL. FOREST.

Please reconsider this hazardous
procedure, as I do not want my
5 yr old son & 2 yr old daughter
exposed to these toxic chemicals. We
love hiking & picking berries. Is there
no place to go to escape the pollution of modern life? Sincerely,
Mary Ann Brown [Mary Ann Brown 41 Birch St. Asheville NC 28801]



USDA Forest Service
VMT Room 362 South
1720 Peachtree Rd NW
Atlanta, GA
30367-9102

U.S.D.A. Forest Service
VMT Room 362 South
1720 Peachtree Road N.W.
Atlanta, Georgia 30367-9102

To whom it may concern;

I strongly oppose both ground and aerial spraying of herbicides in the National Forests. These are extremely toxic chemicals whose detrimental present and future impact on human health, wildlife, plant ecology, and water systems has not been responsibly assessed. I advocate the use of other means of controlling unwanted vegetation that have a less negative impact on the total environment.

Sincerely,

Mary Ann Brown

My address is:

41 Birch St.
Asheville NC 28801

Response to Comments in Letter No. 303

From: Mary Anne Bowers

Comment No.

Response

1

Alternative D (the preferred alternative) permits an increase in acreage treated but requires a reduction in the proportion treated by broadcast methods and also reduces the allowable per acre use rate of herbicides (pages II-58 to II-59 in the Draft EIS). Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Gentlemen.

Jan 30-89

- 1 I am opposed to the spraying of herbicides in the National Forests.

- 2 The detrimental long term effect of these extremely toxic chemicals has not and cannot be assessed on a long term basis.

Let us use - perhaps unemployed youth to control unwanted vegetation in other ways

Teresa Lindsey

TREKA LINDSEY
RT. 1 BOX 301
AREDA, N. C. 28704

Response to Comments in Letter No. 304

From: Iraska Lindsey

Comment No.

Response

- 1 We have assessed both short and long term potential effects of herbicides in the Risk Assessment (human and wildlife), appendix C, and the EIS (environmental impacts). Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose with minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. An additional mitigation measure has been added in the Final EIS that requires the Regional Forester's approval for use of Class B and C herbicides.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1 and Letter No. 560.

- 2 Creation of a youth-type program is beyond the scope of this document. However, you can refer to the analysis of accidents for the period FY 84-87 as shown on pages IV-27-36 of the Draft EIS. It is a record of a 100 percent survey for accidents occurring to our own trained workers. We do not have records of working youth's just in vegetation management, but can assume a significantly higher risk in some of the more strenuous activities.



North Carolina Wildlife Resources Commission

512 N. Salisbury Street, Raleigh, North Carolina 27611, 919-733-3391
Charles R. Fullwood, Executive Director

2 February 1989

4 Lakeshore Lane
Asheville, NC 28804

Mr. Steve McCorquodale
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, GA 30367

Dear Steve:

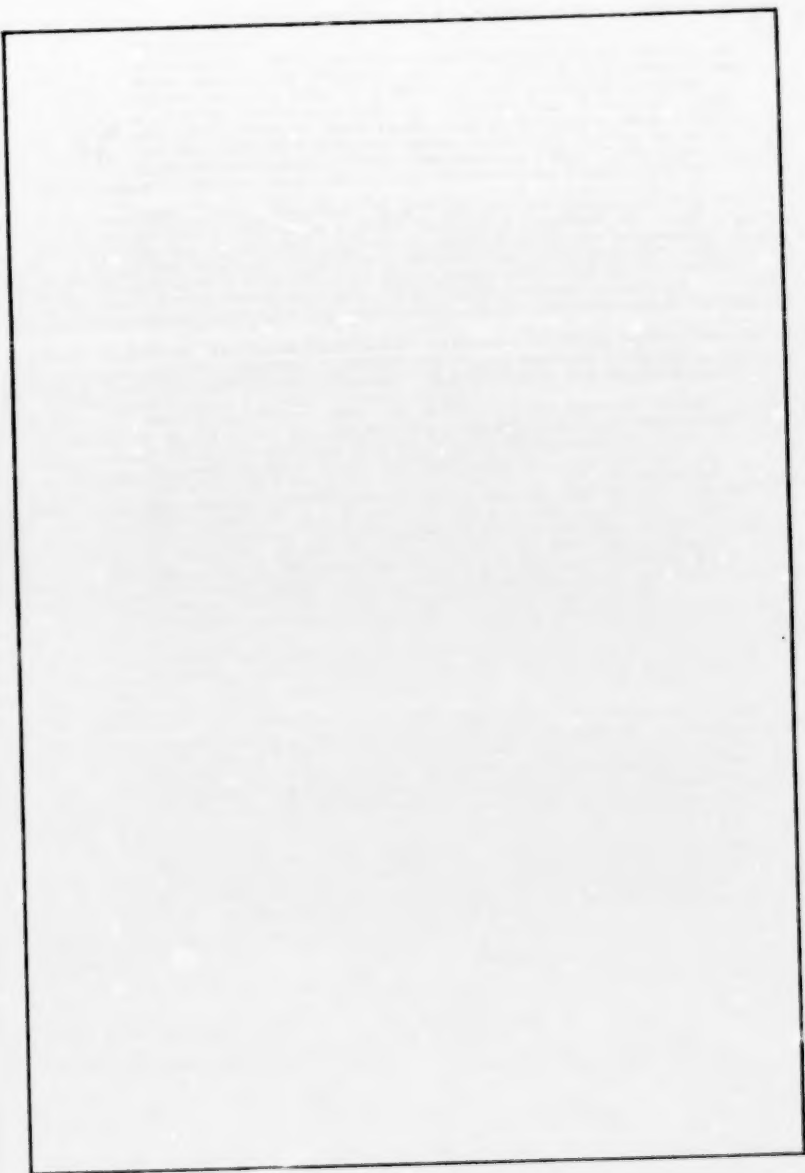
Attached find the North Carolina Wildlife Resources Commission, Division of Boating and Inland Fisheries' comments on the Appalachian Mountains Vegetation Management Plan. We appreciate the opportunity to respond to your plan to ensure we protect our aquatic resources. In general, the plan was thorough and very informative.

If you have any questions regarding our comments please feel free to contact me at 704-253-9158 or at the above address.

Sincerely,

James C. Borawa
Regional Research
Coordinator

cc: W.D. Baker



- 1 Page I-2 A reference to the importance of fisheries must be included. In some parts of the region angling comprises a significant portion of the total recreational user days. It is important to note how this EIS will address protection of the fishery resources on which angling depends.
- 2 Page I-3 This section, in effect, implies individual management plans may be modified based on the decision to implement the final EIS for vegetation management. Every effort should be made to modify the draft to conform with the individual plans as possible. The current Nantahala/Pisgah plans could be weakened if the differences between areas within the region are not recognized in the vegetation management plan.
- 3 Page I-4 Monitoring - In some cases pretreatment monitoring must be considered to obtain the full impact of any treatments carried out. Without the comparative pretreatment information the degree to which treatments impact other resources will be unknown.
- 4 Page II-47 A 5-foot buffer zone does not seem adequate for prevention of impacts to streams. Woody debris is the major source of nutrients for streams. A narrow strip of vegetation along streams will not reduce the amount of debris reaching the streams very much. Suggest at least a 30 foot buffer zone. In addition, the removal of all slash accumulations may not be necessary. Some slash may be beneficial to the aquatic resources by providing additional nutrients and cover, however, it is realized it would also hinder use of the stream and streamflow.
- Page II-54 (11) The buffer strip for use in prescribed fires is good protection. This type of buffer should be considered for the previous comment.
- Page II-64 (30) The standards are adequate and should protect all watercourses.
- 5 Page II-74 It would be preferable to keep treatment frequencies to a maximum (in terms of years between treatments). As such we would favor trails, co/state roads, and railroads to be treated at 2 year intervals rather than 1 year intervals. It would also be preferable to increase pipeline right-of-way treatment to 3 or 4 years from the 2 year period proposed unless there is an adequate reason for annual treatment. This adjustment would reduce the cost and amount of materials necessary to carry out vegetation control.
- 6 Page II-77 The preferred alternative indicates the production of 1,080 tons of sediment will have a very low risk to aquatic life. This may be true regionally, but in specific areas within the region the aquatic resources are much more sensitive. In North Carolina, aquatic resources (invertebrates and fish population) are very sensitive to sediment impacts. Efforts should be made to minimize the production of sediment. This can be accomplished through the strengthening of the standards as suggested above for buffer zones.

Response to Comments in Letter No. 305

From: JAMES C. BORAWA

Comment No.

Response

- 1 Draft EIS page I-2 was intended only to list the vegetation management activities covered by this EIS. Aquatic resources are described on pages III-21 to III-23 of the Draft EIS. Protection of all resources is addressed through mitigation measures, as explained on Draft EIS page II-43.
- 2 The referenced section requires that forest plans be amended based on information in the EIS. What is required is that stricter mitigation measures become forest policy. Allocation of treatments will continue to be done in site-specific analyses prepared under the Plan's constraints, so Plans will not be weakened. Modification of the Draft to reflect constraints in a single Forest could only weaken it, so this is not planned.
- 3 We agree. This is a Forest or District level planning question, but is also discussed under each of the mitigations in chapter II.
- 4 The mitigation measure is designed strictly to reduce channel erosion by retaining bank stability and avoiding flow-diverting channel obstructions. Since it is a general mitigation measure, it applies to all vegetation management methods. It is required in addition to the filter strips designed to reduce sediment delivered from upslope and described on Draft EIS pages II-54 and II-57. The width of these filter strips in fact must be at least 30 plus 1.5 times the percent slope. The mitigation measure doesn't require existing instream debris to be removed; it only prohibits further additions of slash by vegetation management (chiefly site preparation) activities. We recognize the value of well-regulated supplies of large woody debris to streams to create cover and pool habitat, but it should be a well-planned action and site preparation should not be used to place debris in streams.
- 5 Frequencies presented are projected average treatment frequencies from reported field data. They consider habitat needs for a variety of plant and animal species which utilize different successional stages. Impacts to woody understory species development, as well as the production of herbaceous species, were considered. Various treatment frequencies from research studies are compared and evaluated in chapter IV of the Appalachian Mountains Draft EIS. Further comparisons are provided on pages IV-130 to IV-150 of the Appalachian Mountains Draft EIS. The effects of treatment frequency on the environment from the research studies as well as their impact on attaining management objectives for roads, trails, railroads, and pipelines were evaluated in the analysis.
- 6 The 1,080 tons represents only 0.6 percent of the estimated sediment produced naturally (with no disturbance) in the Appalachians. Analysis of cumulative sediment effects (table IV-17, Draft EIS page IV-115) on individual watersheds shows minimal risk to aquatic life in Blue Ridge watersheds. Sediment is kept low in alternative D by requiring filter strips (Draft EIS pages II-54 and II-57) and eliminating intensive prescribed fire and mechanical tools. Estimates of risk assumed a brook trout fishery, one of the most sediment-sensitive habitat types in the United States.

- 7 Page IV-99 The discussion of herbicide effects includes a risk analysis for accidental spills into a pond or reservoir, but not into a stream. An analysis of stream impacts for the specified volume (5 gal. or 100 gal.) of herbicide spilled is also required. This should include an analysis of different stream sizes so the length of stream impacted can be analyzed. This is important in areas of the region which contain large numbers of small streams with important aquatic resources.
- 8 Page IV-104 The recognition of nutrient inputs from vegetation management is an important point which usually goes unrecognized.
- 9 Page IV-108 The discussion of the impacts of sediment to streams is good. However, the document must address the prevention of sedimentation to a higher degree than that proposed under the preferred alternative.
- 10 Page IV-111 The increase in stream flows and resulting increase in channel sediment should be put in perspective with the size of the watershed which will be impacted. Certainly the impact of a 25-acre clearcut in a 50-acre watershed will be much greater than in a 500-acre watershed.
- 10 Page IV-114 4. The discussion of the effect increases in sediment has on aquatic habitat does not provide a reference point. If the numbers are based on an unimpacted stream then the data is a fair representation. However, most streams in the region are already impacted and these percentage increases do not reflect what would happen to them if the sediment increased by such large percentages. Also, the reference to Alexander and Hanson (1986) implies this was sand loads and not sediment loads (which includes fines) which are of importance. This section must be reexamined with respect to existing conditions and the presence of fines in the streams.
- 11 Page IV-139 Water and Aquatic Life - Under the preferred alternative the elimination of aerial spraying on utility rights-of-way should be considered and land based spraying be considered for pipeline rights-of-way. This would reduce the risk of contaminating stream courses. Efforts also need to be made to reduce the amount of sedimentation which will occur, even if it is a small percentage of the total going into streams. Since vegetation management is integral in the overall forest management plans, every effort to reduce sedimentation is necessary to help protect the aquatic resources.

- 7 The Draft EIS analysis examined a range of potential effects from spills by evaluating dumps of 5 gallons (a typical container size) into a 1-acre pond and 100 gallons (a full helicopter tank) into a 16-acre reservoir (volume II, appendix A, pages 4-67, 7-12 to 7-13, and 8-22 to 8-43). Risks are higher for the pond spill, which we think represents a reasonable worst case since the pond is assumed to be stagnant with no chance for the turbulent mixing and inflow dilution that prevail in streams and rapidly reduce peak concentrations downstream. There has never been a recorded case of an accidental spill into any stream in the Southern Region, but we have mitigation measures requiring strict controls to avoid the occurrence of such rare spills and to quickly contain and clean them up (Draft EIS pages II-62, II-63, and II-65).
- 8 Since alternative D requires ample filter strips (Draft EIS pages II-54 and II-57) and prohibits use of intensive prescribed fire and mechanical tools, sediment impacts are minimal. The discussion on Draft EIS page IV-108 has been clarified in the Final EIS.
- 9 The increases discussed on Draft EIS page IV-111 are for fully-treated small (1-16 acre) watersheds. Perspective for larger watersheds is given by the cumulative effects analysis on Draft EIS page IV-115.
- 10 As shown in table IV-17 (Draft EIS page IV-115), sediment increases are based on the natural, undisturbed condition but include all existing and projected disturbances in each watershed. No sediment sources were omitted from the analysis. Risks were analyzed based on increases in total (suspended plus bed) sediment load. Effects from suspended fines are short-lived and are serious only at very high concentrations. Effects from bed deposits are more important because they are longer-lasting and can adversely affect the entire aquatic food chain (Draft EIS page IV-108). The concept of threshold effects based on total sediment increases above natural levels, discussed on Draft EIS page IV-114 and referencing the only pertinent eastern study (Alexander and Hansen 1986) is substantiated by at least two studies on salmonid habitat in the West.
- 11 We recognize the concerns which you reflect in this comment. In the Final EIS, aerial application for utility rights-of-way has been reduced to 400 acres and will be available only on steep, rugged, remote, and uninhabited areas where other methods are not practical. Also, buffers for stream crossings have been increased to 200 feet. However, data presented in the Risk Assessment and summarized in the EIS indicate that there is little potential for negative health effects from aerial application of the herbicides evaluated. Mitigations presented in chapter II of the EIS were found to be generally sufficient to protect the environment. See response to comments in Letter No. 283, Comment No. 2, for the other side of the question.

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Is anyone out there looking after the forest? I have one
feat getting these Volumes up!

Why? I'll never know as you didn't affect me at all!

Comments on Alternatives:

There isn't one that is good enough - altho' close!

Why?

you know why - I'm not for poisons - I'm not for
burning I'm not for clear cutting!

Other: This is what I want

Herbicide 5% Prescribed Fire 5% manual 45% Mechanical 45%
Biological 1% And no clear cutting!

Why?

you can realize why! This is the same way to go!
You're get out all of the dead wood in the forests times that
no clear cutting! And you don't see money on clear cutting!

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Henry, E. R. McKee - Western N. C. Alliance

Name: First MI Last (Organization)

644 Highlands Road

Street

Franklin, N.C. 28734

City

State

Zip Code

← Tear at perforation

Response to Comments in Letter No. 311

From: Henry & Cindy DeRossi

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. The issue of clear cutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

2-6-89

Dr. M. J. D. D.

I'm sending you the information that I sent to the forest service - on what we want to be done in the forests! As we are against poisons - fire (yellow stone last summer) & clear cutting the rope of the land! and lost money on clear cut. On their Scientific Analysis

Really is anyone watching the forests! It was a feat getting the volumes up.

Why?

I'll never know as you didn't effect us one bit! Comment on alternative

There is a law that is good enough - altho' close!

Why?

You know why - I'm not for poisons - I'm not for burning & I'm not for clear cutting!

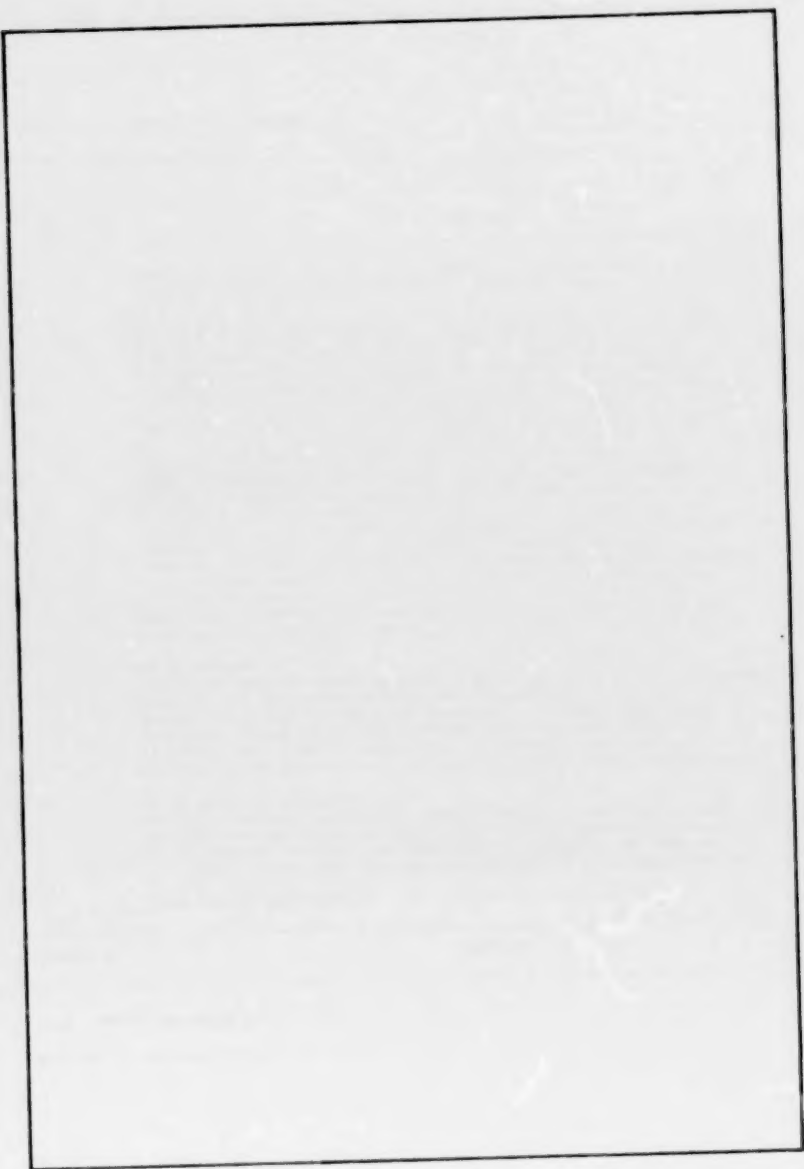
Other

This is what we want
Herbicide 3% Prescribed Fire 5% Manual 45%
Mechanical 44% Biological 1% And No Clear cutting
and you lost no money on clear cutting

Why?

You can see why! This is the best way to go!
It is to get out all of the dead wood in the forests &
see that! No clear cutting - no lost money

Henry & Cindy H. Rossi
Watts, N.C. Alliance
644 Highlands Road
Franklin, N.C. 28734



Tear at perforation

RESPONSE FORM

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However you decide to respond, please help us by making specific and meaningful comments.

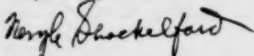
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:P. O. Box 257
Beattyville, Ky. 41311
Feb. 7, 1989

After scanning this Vol. 1, EIS Vegetation Management document and considering the Alternatives and contents, I do not consider myself—as a journalist and outdoor writer—to be qualified to comment or critique beyond saying it all looks good to me. As a natural resource conservation promoter and supporter, I have long been vitally interested in forestry and have closely followed the activities of the US Forestry Service in my area of the D. B. National Forest. I have in all these years of association, I have never anything wrong with the management practices. As a consequence, I would prefer to let the specialists of this Service make the management decisions. I will say this, however, in management procedures, I would back limited use of herbicides and other other chemicals that might have capabilities of polluting the environment.

Other:

Respectfully



Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Doyle Shackelford, Newspaper Columnist
Intermountain Pub. Co

Name: First MI Last (Organization)

Street P.O.Box 257

City State Zip Code

Beattyville, Ky. 41311

Tear at perforation

Response to Comments in Letter No. 312

From: Neville Shackelford

Comment No.	Response
1	Thank you for your support.
2	Your concern about herbicides has been included in the content analysis of all comments received. We agree that we should not use chemicals that may have the capability of polluting the environment. To reduce such risks we have incorporated numerous mitigation measures on pages II-76 to II-83 in the Draft EIS. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis: ~~Summary~~

Overall an excellent job - covered all the available options. It is very difficult to handle specifics while addressing an area as large & diverse as this.

Why?

1

Comments on Alternatives: I favor Alternative D.

ALT. D is ~~an~~ ^{an} excellent most effective method of management. The Aerial Application is the "correct" herbicide using the most careful technique. It is safe for the public, operators & the environment. It will probably impact the water quality less than any of the other methods.

Why?

Other:

Why?

The USFS should utilize this important tool & educate the public on its benefits rather than bury its head in the sand & avoid the controversy. The National Forest is a Great Resource that should be managed with the utmost knowledge & skill while using the modern tools available. It should be a showplace where Scientific Forest Management practices are used & ~~are~~ ^{are} evaluated.

(Use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Charles W. Curran
Name: First MI Last (Organization)
Rt 2 Box 582-A
Street
ETOWAH, TN
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 313

From: Charles W. Currence

Comment No.

Response

- 1 Thank you for your support. Your preference for alternative D was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis: *My main concern has been use of herbicides for vegetation control due to drift to other areas. It seems you are taking all precautions possible once the decision is made to use chemicals. I think you have done a good job on this EIS. I only hope you can get compliance in the field. I also agree that Alt. D is preferred.*

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

NAME: MALCOLM G. EDWARDS
 Address: 78 RUSSELL RD.
 LAWRENCEVILLE, GA 30043

City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 314

From: Malcolm G. Edwards

Comment No.

Response

- 1 Your preference for alternative D was included in the content analysis of all comments received. Thank you for your support.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

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 However you decide to respond, please help us by making specific and meaningful comments.
 Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

The team has looked at all areas of natural resources and made significant input in their field of education and experience and made good scientific analyses.

Why? With June 22 specialized papers + not 100 listed by name without the mini biography. With the statement going out to hundreds I was obligated to see representative WR. Wonder why NC and VA cut did CA.

Comments on Alternatives: A - Fambank Forest seems to do well.

B - Like low intensity treatments - herbicide use - I like way ^{grows under}

1 C - High disturbance tools shouldnt be used - like the chainsaw

D - Agree perhaps D. best all round.

Why? A - water quality preserved - wild fire would be very bad

B - Seems to have people and animals at heart - also plants

C - Like use of all methods except biological (like army to grow birds)

D - Hope herbicides will be used carefully - quantity & use except utility lines

Other: Main concern

2

wide usage of aerial sprays will pollute air and water

WA couldnt prisoners be used to clean up the forest for birds.

Why? this 3-4 D prohibited by law for water (m245)

3

What about acid rain?

The increasing Green house effect.

Why are countries harvesting trees leaving the land to wash into the ocean (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Pauline B. Roth
 Name: First MI Last (Organization)
 2750 Tanellendine
 Street
 Atlanta GA 30345
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 315

From: Pauline B. Roth

Comment No.

Response

- 1 Your preference for alternative D was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
- 2 Aerial application of herbicide in the Appalachian Mountain subregion is strictly limited. In the Final EIS, it will be used on only 400 acres/year of utility rights-of-way that are steep, rugged, uninhabited, and not practical for other methods. Use of 2,4-D, though still allowed, is severely restricted (low possibility of use due to mitigation number 7 (page II-59 in the Draft EIS)).
- 3 The issues of acid rain, the greenhouse effect, and harvesting malpractice in other countries are outside the scope of this EIS.

2756 Gressell Dr. N.E.
Atlanta, Ga. 30345
Feb. 8, 1989

Mr. John C. Alcock:
USDA Forest Service
1720 Peachtree Rd. N.W.
Atlanta, Ga. 30367

Dear Jack -

I was delighted to see Elmer Roth
and Betsy Skuth's government bulletin,
"Butt rot in unburned sprout oak stands"
included in the references on Vegetation
Management in the Appalachian Mountains,
Volume I.

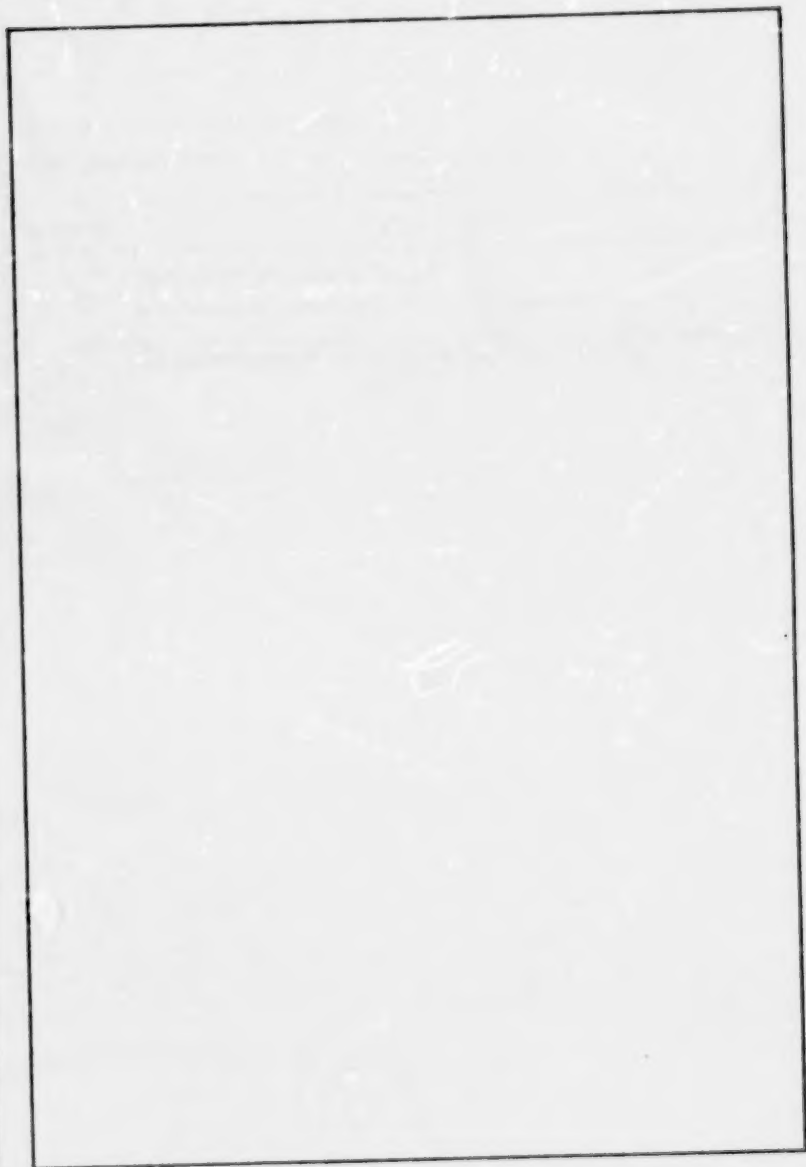
Steve McCorquodale and his team
have done a tremendous Impact study.
Our planet, Earth, is in danger of
being swallowed up in its wastes
and lack of Conservation of Natural
Resources. USDA Forest Service,
Impact Study is a step in the right
direction.



Back to Elmer and his work ²
 on the George Washington National Forest, I
 recall going with him in the field
 and recording data on the plots he
 put in, in 1934. I don't recall whether
 Bailey Sneath was involved too much
 in the initial work but I do recall
 living at 3624 Chestnut St. in Philadelphia
 while he and Bailey were writing the
 bulletin at the University of Pennsylvania.

Years I read later in some
 publication that this was the oldest
 running experiment on a national Forest
 put in and concluded by the same
 person.

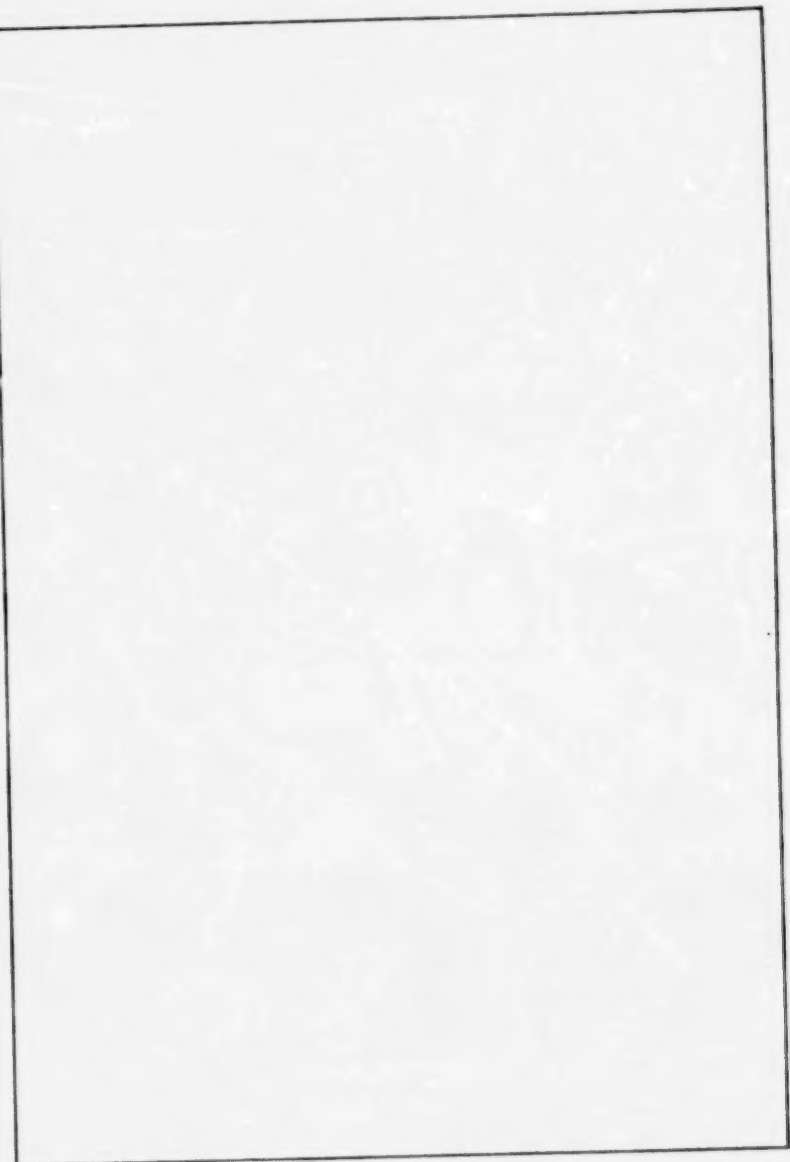
My true story, in the Forest Service
 Brief Remembrances of Early Forest Service Days
 volume I, recalls the hazards of
 getting over the Forest Service Road.
 Perhaps they are more passable today.



In regards to the Impact Statement I doubt the value of my insights and comments. Some of this is due to lack of in depth study of the document. This is no ordinary study for a layman or even a biology teacher with a scientific background. I was pleased to see I represented West Virginia and the university. What happened to Georgia? Individuals in North Carolina and Georgia outdid us.

Thank you and your team for including me in your statement. Comments were mailed today to Mr. McCasquodale.

Sincerely,
Pauline B. Roth
Wife of Edmund R. Roth



Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

- Comments on Scientific Analysis:** Having only a limited amount of time to read for this response, I chose to read the summary intensively, and the more detailed chapters "at-a-glance". I found the analysis very informative and surprisingly comprehensible although some information was beyond the comprehension of the average citizen (don't talk, so to speak). However, by preparing this statement & distributing it throughout the region & allowing comments such as:
- 1 Why? this implies that the government does value & take into consideration the citizens it serves. Frankly, I'd much rather see my tax dollars spent on a study such as this with give & take between the government & the people, than spent on nuclear weapons development & research & depletion of funds of which the "average Joe" will never be informed of much less be able to comprehend. The environment is a much more important issue.
- Comments on Alternatives:** Each Alternative considered and outlined is justified and seemingly approached objectively. Since man feels the need to do something, Alternative A is out of the question. Of the Alternatives presented herein, letter D (the one preferred by the USDA) seems to have the best combination of management tools although I still question the use, manual or ~~mechanical~~ aerial application of herbicides specifically.
- 2 Why? in relation to groundwater contamination. As a concerned citizen, I would certainly hope that the USDA & other branches of the government have determined beyond the shadow of a doubt exactly what herbicide chemical does and its effect on every aspect of the environment. Also of vital importance in this area is the skill & training of the application people which could be detrimental to the ecosystem & thus a hazard to the community.
- Other: The USDA should reserve & learn from what is occurring in the coniferous forests. In central & South America & Africa where indigenous species of the regions are disappearing, activities such as logging are causing a gross loss of biodiversity such as the Rainforest Action Network & Greenpeace are bringing such issues to public attention & people are reacting to them. Life on this planet depends on it.
- 3 Why? how man deals with his environment because of the cycle of life. There are we are our own worst enemy because we have neglected the environment for long & are now faced with a hole in the protective ozone layer, then the greenhouse effect, acid rain, groundwater contaminations, drought, etc. I certainly hope the USDA with the BIA administration address these issues, instead of ADDING to the problem as was so blatantly obvious in the region EPA.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

SHANNON E. WILSON

Name First MI Last (Organization)

21 HIGH MEADOW DRIVE

Street

BLACKSBURG VA. 24060

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 316

From: Shannon E. Wilson

Comment No.	Response
1	Thank you for your support.
2	See response to comments in Letter No. 22, Comment No. 2.
3	The issues of clearcutting, tropical rainforest deforestation, ozone, and the greenhouse effect are outside the scope of this EIS.

← Tear at perforation

DRAFT ENVIRONMENTAL IMPACT STATEMENT
VEGETATION MANAGEMENT IN THE APPALACHIAN MTS.
RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.
However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I believe that your research on herbicide use is inadequate.

Why? There are too many unanswered questions on the adverse effects of herbicides on wildlife, insects, and wildlife food, especially with aerial spraying.

Comments on Alternatives:

1 I believe that Alternative F is much better than Alternative D.

Why? Alternative F is more environmentally sound, healthier for wildlife, their food supplies, forest streams and the water table. Better training of forest workers will result in less injuries and fewer compensation claims.

Other:

Research should be initiated on biological controls in vegetation management.

Why?

Wildlife is declining throughout the Southeast, especially amphibians and reptiles, and unnatural fire and site preparation are probably factors. Herbicides and aerial spraying will only intensify the decline. (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Bruce H. Hissner (Editor, AFO)
Name: First MI Last (Organization)
165 SHAWNEE RD
Street
AMSTERDAM AL 36201
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 317

From: Bruce Hutchinson

Comment No.

Response

- 1 Your preference for alternative F was included in the content analysis of all comments received. Please see response to comments in Letter No. 522, Comment No. 1.

Toxic effects on wildlife, as well as effects on wildlife habitat, are discussed in sections IV-D and IV-E of the Draft EIS. The Risk Assessment (appendix A) and the body of scientific literature suggest that risk of toxic effects are very low. As with any manipulation of habitat, herbicides alter habitat in ways that benefit some species and adversely affect others. Scientific evidence presented in the risk assessment and the EIS supports the position that the herbicides evaluated can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-58-65 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment. An additional mitigation measure has been added in chapter II of the Final EIS that requires Regional Forester approval of the use of Class B and C herbicides.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

Reasonable for the purposes of this EIS.

Why? Recognizes both the biological limits of the systems existing in the Saturn Appalachians and the various pressures upon them.

Comments on Alternatives:

1. Conclude that Alternative D is a reasonable compromise.

Why? Recognizes both the economic importance of the landowner and its importance to maintaining the biological integrity of the Saturn Appalachians.

Other:

A fair compromise.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

R. J. MCGILVER
 Name First Last (Organization)
Sta. Tech.
 Street
Sta. 115, Va. 24066
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 318

From: R. L. McGlwee

Comment No.

Response

- | | |
|---|---|
| 1 | The interdisciplinary team is pleased that you found the analysis well done and useful. |
|---|---|

February 6, 1965

USDA Forest Service
1720 Peachtree Road NW
Atlanta, GA 30367

Dear Steve McCorquodale,

I have received and read closely the Environmental Impact Statement about vegetation management on the National Forests in the Southern Appalachian Mountains.

I have some comments on the scientific analysis. Your analysis is based on the "need for action" (Ch. 1, Sec. B). "Vegetation management is the manipulation of plants to benefit a variety of forest resources and investments." In a naturally balanced ecosystem, any wildlife or vegetation that is labeled "desirable" will necessarily take a manipulative advantage over those that are labeled "undesirable." There will also be byproducts of such manipulation; that is, other wildlife and vegetation that find this specifically manipulated habitat preferable will also flourish.

- 1 In a naturally balanced forest ecosystem, nature and natural selection should decide which species should survive, prosper or dominate and when. Human interests should be subverted to those of the specific ecosystem, when as an intruder in our forests must respect his position in this specific ecosystem. The forest service should not be in the position to decide which species are to thrive and at what cost to other species.
- 2 Economic considerations are certainly the last ones that nature would consider. It is similarly the most poorly conceived and most harmful criterion for human's effect upon our forests. "Forest growth" is a purely economic concept that has no place in a balanced ecosystem where fires, predators, weeds, brush and a varied plenitude of flora and fauna should coexist; hard and soft woods intermingle naturally where they are allowed to do so; new growth begins by way of naturally occurring fires that naturally space and intersperse species at various stages of maturity.
- 3 The economic management of our natural forests by the Forest Service is a dismal failure. The Federal Government lost \$3.1 million in 1967 in Virginia alone from the sale of trees to the timber industry. Roads, runoff and chemical spraying fragment and pollute natural habitats. These "future costs" to our manipulation of the forests are never economically considered and, if they were, "no commercial potential" would be the obvious economic conclusion.
- 4 In management of our natural resources, just as in government, "the government that governs best, governs least." Natural diversity should be the overwhelming criterion for vegetation

Response to Comments in Letter No. 319

From: Ernest Reed

Comment No.	Response
1	National forests are mandated to produce a variety of goods and services (eg., wilderness recreation, watershed, timber resources, and range forage). In order to fulfill this mandate, some manipulation of natural processes is necessary. These are addressed in each Forest Land and Resource Management Plan.
2	Please see first sentence of response to comments in Letter No. 169, Comment No. 2. The Council on Environmental Quality Regulations 40 CFR 1502.23 encourage consideration of economics as a factor in the human environment. Economic effects are only briefly discussed in this EIS, but that discussion is appropriate, especially for perspective and as needed when used as references preparing site specific analysis on page II-44 of the Draft EIS..
3	Management decisions on-the-ground, including management of specific land areas and allocation of tools to each project are outside the scope of this EIS. Timber sales and road construction are discussed in the Forest Land and Resource Management Plans of each National Forest. Please see page I-3 for description of activities addressed in this document.
4	We certainly agree that we should not be taking unnecessary actions in vegetation management. Please see the information presented in the analysis of alternative A. Your concern about natural diversity has been included in the content analysis of all comments received. Vegetation management as analyzed in this document is not viewed as a purely economic issue. Vegetation management as defined on page I-2 of the Draft EIS is done for more than just the production of timber; programs such as wildlife habitat improvement, threatened and endangered species protection, and mountain balds maintenance are examples. Without mountaintop balds management, for example, a unique ecosystem will be lost entirely.

management. Vegetation management cannot be viewed as a purely economic issue. Human criterion should not be a basis for intervention in nature's cycles. We should first and foremost be concerned for the health of our planet and our forests. The health of the earth is most threatened by changes in ecosystems that are the byproducts of human intervention. We should take the utmost care to "do nothing" that harms nature's natural balance. We must avoid "human" curses that do more harm than good.

- 5 Vegetation management would be limited, therefore, to those areas necessary for transportation, whether by road, trail or footpath. Your Alternative F comes closest to addressing this plan, but it falls short. Fire management should be eliminated as Site Preparations for Pines and Hardwoods and TSI. Fire Management should be eliminated and the natural selectivity should be allowed to return to the areas of Balds, species and wildlife habitat. Fuels treatment should be totally eliminated. Manual and mechanical methods should comprise 100% of the forest management plan. This alternative is not even offered due to your inappropriate assessment of needs.
- 6

Please feel free to contact me if you have any questions concerning this. I have much information which you could find useful so that your future considerations be more complete, detailed, and ecologically sound.

Sincerely,

E. A. Reed

Ernest Reed, Conservation Chair
Blue Ridge Sierra Club
P O Box 389
Nellysford, VA 22958

- 5 Comments noted. Your preference for alternative F was included in the content analysis of all comments received. See response to comments in Letter No. 366, Comment No. 1; and Letter No. 322, Comment No. 1.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

- 6 Please see page II-20 of the Draft EIS. Under "C. Alternatives considered but eliminated from detailed study" review the "No prescribed fire or herbicides" statement. Fire is one of the natural processes. Please see appendix E "History, Uses, and Effects of Fire in the Appalachians." For a summary of effects when prescribed fire is excluded see pages IV-145 and IV-146.



☐ North Carolina Wildlife Resources Commission ☐

512 N. Salisbury Street, Raleigh, North Carolina 27611, 919-733-3391
Charles R. Fullwood, Executive Director

Allen Boynton
209 Ervin Road
Morganton, N.C. 28655

7 February, 1989

USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

Dear Sirs:

I am a wildlife biologist employed by the North Carolina Wildlife Resources Commission. My responsibilities include the conservation of nongame and endangered wildlife in the mountain and foothill regions of North Carolina.

1 I have reviewed the DEIS on Vegetation Management in the Appalachian Mountains. I support either alternative C or D, with reservations. My objection to these alternatives focuses on the possibility of the reduction of plant and animal species diversity within small, stand-sized areas. Many wildlife species have small home ranges. Altering vegetation, even over limited areas, can negatively affect populations of rare, patchily-distributed species.

2 We can avoid the reduction of species diversity on national forest land by conserving populations of unique wildlife species where they occur. Our problem lies in knowing where populations of rare species on national forests exist. My work with USFS personnel in western North Carolina over the preceding 10 years leads me to believe that district and S.O. personnel do not have this information available to them. Most land management agencies, including the Wildlife Resources Commission, are facing a similar situation.

Response to Comments in Letter No. 320

From: Allen Boynton

Comment No.	Response
1	Your reserved support for either alternative C or D was included in the content analysis of all comments received. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1. These changes markedly reduce potential adverse effects of herbicides on plants and animals from the already-low levels of risk in alternative D.
2	Prior to any vegetation management treatment, projects will undergo site-specific analysis (mitigation measure number 1 on page II-44 of the Draft EIS) which determines appropriate methods and tools, intensity and selectivity of applications, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. This includes the examination and evaluation of a reasonable range of alternative methods, including the use of methods which do not involve herbicides. In order to prevent unknowing impacts on threatened, endangered, proposed, or sensitive species, regardless of the method or tool proposed for use, mitigation measure number 2 on page II-44 of the Draft EIS specifically states that when adequate population inventory information is unavailable, it will be collected when the affected site has a high potential for occupancy by a threatened, endangered, proposed, or sensitive species. Figure D-1 of the Final EIS traces the process required to insure adequate assessment of potential harmful effects. Mitigation measure number 9 on pages II-59 and 60 of the Draft EIS further protects these species from risk of adverse effects. Additional systematic surveys will be conducted as funding becomes available.

You have written adequate measures to mitigate the effects on wildlife of your proposed actions. However, your successful application of some of these measures presupposes a knowledge of the distributions of rare wildlife that you do not have. These mitigation measures are:

- | | |
|----------------------|-------------------|
| 1. a. (1) & a. (2) | Page II-44 |
| 2. a. (15) | Page II-53 |
| 2. c. (9) | Page II-59, II-60 |
| 2. c. (20) & c. (20) | Page II-63, II-64 |

I suggest two strategies the USFS could take to deal with this problem. One avenue is a conservative approach, prohibiting actions that change vegetation in habitats that might harbor rare species. The other approach, in my view the preferable one, is to conduct systematic surveys for rare species throughout the affected area. This approach entails a higher level of funding for wildlife management activities than Congress allocates now.

3

I suggest the re-wording of one mitigation measure in particular, that dealing with control of grapes (l. g. (19)). The author words the measure specifically to allow the liberal use of grapevine control. The author includes words like "generally" and "usually" that some foresters will use as loopholes to prescribe grapevine control in any situation they desire. You should set a concrete standard for the creation and retention of grape arbors and not let its application depend on "other considerations". You will find the mitigation measure as now written to be ineffective for the protection of wildlife habitat.

One other matter warrants your attention.

The North Carolina Wildlife Resources Commission holds responsibility in North Carolina for the listing of endangered, threatened and special concern species (G.S. § 113-334). This legislation, passed by the General Assembly in 1987, directs the Wildlife Resources Commission "to coordinate development and implementation of conservation programs" for state-listed species.

The Commission recently added 13 species to the state list, which already included federally-listed species occurring in North Carolina.

4

Several species listed recently occur in the area covered by the DEIS on Vegetation Management in the Appalachian Mountains. These animals, listed below, are all designated as Special Concern species. We request the Regional Forester's designation of Sensitive in North Carolina for these species (many are listed as such for other forests).

- 3 Because site conditions and the amount of grapevine competition vary so significantly throughout the region, we opted to let individual forests set more stringent standards for grapevine control if those forests deem those standards necessary.
- 4 We have discussed these species with our Forest Biologist in Asheville and have added all of them except the bats (which have no record of occurrence on the national forests) to table F-3 in the Final EIS.

Appalachian water shrew	<u>Sorex palustris</u>
Rock shrew	<u>Sorex dispar</u>
Pygmy shrew	<u>Sorex hoyi</u>
Star-nosed mole	<u>Condylura cristata</u>
Keen's bat	<u>Myotis keeni septentrionalis</u>
Small-footed bat	<u>Myotis leibii</u>
Rafinesque's big-eared bat	<u>Plecotus rafinesquii</u>
Eastern wood rat	<u>Neotoma floridana</u>
Rock vole	<u>Microtus chrotorrhinus</u>
Green salamander	<u>Aneides agneus</u>
Bog Turtle	<u>Clemmys muhlenbergi</u>

The Commission considered all mammalian species for listing and will not list additional mammals during 1989. Although the Commission took immediate action to protect the green salamander and bog turtle from collection, further study of amphibians and reptiles will result in the listing of additional species this year. Likewise, the Commission will list several avian and molluscan species in 1989.

The Wildlife Resources Commission will notify the National Forests in North Carolina of additional state listings of rare species as they occur. The Commission's staff biologists will respond to requests for information about the distribution and management of wildlife on Pisgah and Nantahala National Forests.

I suggest these revisions to Appendix F, Table F-1 and Table F-3:

Table F-1

- 5 1) The northern flying squirrel occurs on Cherokee National Forest as well as Pisgah and Nantahala National Forests. Correct the spelling of Glaucomys [There are several other spelling errors in Latin names throughout this document].
- 6 2) A Virginia big-eared bat colony occurs on Grandfather Mountain, Inc. property bordering Pisgah National Forest. The colony site lies within 0.5 miles of the Grandfather Ranger District. National forest land provides a foraging area for bats in this colony. You should add 'NC' to the list of national forests where this species occurs.

Table F-3

- 7 1) You should add 'NC' to the listing of national forests for each Sensitive species listed above.

- 5 This and other spellings have been corrected in the Final EIS.
- 6 This change has been made in the Final EIS.
- 7 Done as indicated in our response number 4 above.

- 8 2) North Carolina does not now list the golden eagle, New England cottontail or southern bog lewelling as endangered, threatened or of special concern. At present, the Wildlife Resources Commission does not plan to list any of these species. The Carolina madtom is endemic to the Neuse and Tar river drainages and does not occur in the southern Appalachian region. You should remove 'NC' from the listing of national forests for each of these species.

I suggest these revisions to Appendix D:

- 9 1) You should include in the appropriate paragraphs in Appendix D the need for coordination with state wildlife conservation agencies, as well as state natural heritage programs.
- 10 2) Grassy balds provide important foraging habitat to raptorial species at all times of year. The judicious use of herbicides, prescribed fire, cutting with hand tools, mowing or grazing to retard succession on grassy balds will benefit some raptors. You should modify Tables D-1 and D-3 to reflect these benefits for peregrine falcons and golden eagles.
- 11 3) The removal of dominant vegetation over boulders used by green salamanders may change temperature and moisture characteristics of this habitat to the detriment of green salamander populations. You should modify Table D-3 to show potential adverse effects of the use of herbicides or cutting to remove canopy trees from green salamander habitats.

Thank you for the opportunity to review this LUIS. I congratulate the authors on their work. The document contains valuable information that many land management specialists will use in coming years.

Sincerely,

Allen Boynton

Allen Boynton
Wildlife Biologist

cc: Lauren Hillman, USFS
Jack Donnelly, NCVRC
Randy Wilson, NCVRC

- 8 We have removed the "MC" designation from the New England cottontail,
southern bog lemming, and Carolina madtom in table F-3.
- 9 We have reworded the pertinent sentence in the Final EIS.
- 10 We have modified the stated effects on the peregrine falcon, but left
those on the golden eagle unchanged from the Draft EIS.
- 11 We have made both these changes in the Final EIS.

P. O. Box 756
Lynch, KY 40855
Feb. 3, 1989

U.S.D.A. Forest Service
1720 Peachtree Rd. N. W.
Atlanta, GA 30367

Dear Sir;

1 I have read Vegetative Management in the Coastal Plain Vol. 1 and Vegetative Management in the Appalachian Mountains Vol. 11. I thought your whole presentation was so voluminous, so in depth that only a hater or enemy of the Forest Service would possibly want all the detail information so that they might pick the parts where their special interest concerns and desires lie.

I have only praise and appreciation of U.S.D.A. Forest Service application of multiple use management goals. I do not want my tax money spent on Draft Environmental impact statements, to provide a data base and learning experience in ecology for the small segment of the public who have special interest for National Forest; or who want all National Forests preserved as a National Park or wilderness and not used by the majority.

I think each acre of National Forest land should be managed for the best use and combination of uses for the general public. I think the greatest dollar return per acre in the long term (hundreds of years) is a desirable and excellent criterion for the decisions on specific land use of National Forest.

I think environmental impact statements on National Forests are a device conceived by special interest persons, groups, and organizations to hobble Forest Service Managers and personnel; to frustrate multiple use application by Forest Service employees who have education and training for professional specialties across a broad spectrum of natural resource requirements, and last, a device to divert attention from special interest desires.

I believe career professionals in the U. S. Forest Service do research and consequent applications of best methods and state of the art management. I disapprove of those who would require and tie up a battery of Forest Service personnel to gather data for the concoction, assimilation and publication of Vol. 1 & 11. All for the appeasement of non-specialist, non-professional, ill-informed, and natural resource illiterates to learn enough terminology to disrupt and sabotage the implementation of

Response to Comments in Letter No. 321

From: Will Kaler

Comment No.

Response

1 Comment noted.

multiple use for management.

For the clarifications of my exact feelings on issues, I:

1. Approve of multiple use directed by U.S. Forest Service professionals.
2. Approve of control burns and prescribe burns.
3. Approve of below cost timbersales.
4. below cost and projected return roads.
5. mineral exploration, development and mining.
6. Hydroelectric empoundments and irrigation empoundments.
7. Grazing for fees.
8. Use fee for camping, hunting, boating, picnic, etc.
9. Sawtimber sales by open bid on any and all timberland.
10. The sale or trade of forest service land to acquire private owned property needed for egress.
11. The sale of forest service property that meets no natural resource needs.
12. Clear cutting as a acceptable method for harvest.

To further clarify my evaluation of policies of the forest service and the regulations and guidelines imposed by congress and the President, I disapprove of:

1. Setting aside any more roadless acres.
2. Anymore productive land put in a wilderness or primitive area.
3. Any land taken out of production for spotted owl, woodpeckers, fish, plants, animals, etc.
4. Any form of let burn policy for wildfires.
5. Any forest fire that a monumental effort to extinguish has not been instigated upon detection, unless it is a prescribed fire that has been planned for.
6. The purchase of any additional land for any purpose other than egress to land already owned.

Sincerely,
Bill Koier

Bill Koier

Reproduced from poor document.

257 Ellijay Road
Franklin, North Carolina
28734

February 8, 1989

U S & A Forest Service
1720 Peachtree Road, N. W.
Atlanta, Georgia 30367

Dear Sir:

- 1 This letter is being written to express my utmost concern and opposition to the method the Service prefers regarding use of herbicides and prescribed burning in the national forests.

- 2 I write as a living example of what chemicals do to humans. Five years ago in Raleigh, I was unknowingly exposed to chemicals on the job. When finally diagnosed as chemically sensitive, my physicians advised that I move to the mountains for the clean air, water and land.

In this time, I have built a chemically free home and am able to grow my own chemically free vegetables in an organic garden. Being that my land adjoins the Nantahala Forest, will you be able to move me to a cleaner (?) place where I won't be dumped on by the drift of aerial spraying, or exposed to chemicals along the roadsides or hiking trails?

Response to Comments in Letter No. 322

From: Margaret Rose Jones

Comment No.

Response

- 1 It is for many of the concerns you mentioned that we have given herbicides such detailed study, are proposing use of only those of lowest risk, and are requiring numerous mitigation measures (see pages II-76-83 in the Draft EIS).

Please also see response to comments in Letter No. 169, Comment No. 2 which includes references to recent information published concerning several chemicals regarded as hazardous.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 An additional mitigation measure (number 15 on page II-65 of the Final EIS) has been added that will help alert management to workers sensitive to specific herbicides.

The mountains and forests have been a godsend to all of us. Nature is too delicate to continue to try to destroy. Herbicides will do nothing but kill wildlife, get into our water supply, and endanger the health of humans. A doctor testified that I was a "canary" of society. If we use herbicides, the signs of dead wildlife will tell us we are in great danger ourselves.

The chemical companies are most influential. We must weigh what is more valuable - an easy way out with someone making a lot of money, or saving mankind. Why continue to destroy what little is left? Did none of them, or you, serve in Vietnam with Agent Orange? You don't know the spraying of the forests will cause the same results here.

- 3 Regarding prescribed burning, why not hire the unemployed to go in and clear the forests underneath of old wood? If we burn our trees, we lose the producer of needed oxygen. With loss of the rain forests in South America, we need to save, not burn or clear cut, every tree.
- 4

As sick as it would make me to go into city traffic and into a building, I would be more than willing to speak my views with you in person.

As a chemically sensitive human being, I urge you to consider all the dangers herbicides and burning will do to our fragile environment.

Sincerely,
Margaret Rose Jones

- 3 Regarding employment please see response to comments in Letter No. 22, Comment No. 1 and also Letter No. 57, Comment No. 3.
- 4 The issues of tropical rain forest deforestation and clearcutting are outside the scope of this EIS. Please see page I-3 for activities addressed in this EIS.

Judy Sebeckel
455 Hannah Branch Rd.
Burnsville, N.C. 28714

February 7, 1989

John C. Alcock
USDA Forest Service
1720 Peachtree Rd N.W.
Atlanta Ga. 30367

Dear Mr. Alcock,

1 I strongly urge you to reduce the use of pesticides on public lands. Please do all you can to see that Alternatives Plan B be adopted. This seems the safest plan - safest for people, water and animals.

2 I also would like you to know that I am opposed to clear cutting on public lands. I think this bad practice has made the use of pesticides more necessary. Please stop this practice. You are destroying the natural environment and then destroying it again with pesticides.

Please stop!

Sincerely,

Judy Sebeckel

Response to Comments in Letter No. 323

From: Judy Scheckel

Comment No.

Response

- 1 Your concern about herbicide use and your preference for alternative B have been included in the content analysis of all comments received. Alternative B does have some of the favorable effects listed. It also has effects considered unfavorable by other commenters. Pages II-76-83 of the Draft EIS summarizes the positive and negative effects of alternative B. More detailed summaries of impacts of each alternative begin on page IV-130 of the Draft EIS.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

23 Beverly Hills Drive
Newport News, Virginia 23606
7 February 1989.

U.S.D.A. Forest Service
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

Re: Draft Environmental Impact Statement re
Vegetable Management in the Appalachian
Mountains, dated November 1988

Dear Sirs:

As a resident of Virginia and recreational user of National Forests and Parks in North Carolina and Virginia, I have several comments on the draft EIS and the proposed method (Alternative D) for vegetation control in the Southern region mountains.

I strongly object to the method preferred by the Forest Service, because of the heavy reliance on herbicides and fire for control. The use of herbicides, particularly when aerial spraying is employed, would adversely affect the health of recreational users of the areas, as well as that of residents living near the parks, and their farm animals. Aerial spraying would affect lakes, rivers and streams

Response to Comments in Letter No. 324

From: Ann L. Pharr

Comment No.

Response

- 1 Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

used by residents and tourists for fishing, swimming, and even drinking water.

- 2 Herbicide build-up could affect groundwater and drinking water supplies; and the National Parks and Forests are not isolated. They are surrounded by communities and constantly used for recreational purposes.

- 3 The experience with out-of-control fires at Yellowstone recently demonstrates the risks of using fire as a major means of vegetation control. Much of the Appalachian area was affected by drought last year. Use of fire would be risky in such years, particularly since the Appalachians are so populated year around.

Other alternatives are available and are more desirable from the "human" point of view. Fires and aerial spraying of herbicides render an area unpleasant and even uninhabitable for many people. Control by manual, mechanical, and grazing means are preferable from the standpoint of health as well as user enjoyment. Persons such as myself, with allergies, or others with chemical sensitivity, would be denied the use

4 of the areas. Too little is known about the effects of herbicides on human health, both by direct impact and via the food chain. However,

- 2 Use of 100-foot buffers along streams and lakes has been shown by models and field studies to protect these water bodies very well from herbicide contamination during aerial application, if nozzles producing only large droplets are used and application is in favorable weather (Draft EIS volume I, pages IV-99 and IV-100 and volume II, appendix A, page 7-13). Mitigations requiring large droplet nozzles and favorable weather are on Draft EIS pages II-62 and II-64. In the Final EIS, buffer widths for aerial application have been increased to 200 horizontal feet.

By applying herbicides at low rates (Draft EIS page II-58) and using buffers (Draft EIS page II-64), surface and ground water will be protected very well (Draft EIS pages IV-99 to IV-106). Herbicides used on national forests will not build up in the environment; use is restricted almost completely to Class A herbicides (mitigation measure number 7 on Draft EIS page II-59, strengthened in the Final EIS), which have half-lives of 2 months or less and are essentially decomposed in 2 to 12 months (long before any subsequent application).

- 3 The Yellowstone disaster occurred because wildfires were allowed to burn into an unexpected summer drought period, through areas where lack of prescribed fire had allowed fuels to build to dangerous levels. About half of our prescribed fire program in the Appalachians is to reduce hazardous fuels and prevent catastrophic wildfires. Another third is to maintain wildlife habitat and mountaintop balds. Prescribed fires are strictly controlled to prevent unacceptable adverse effects (Draft EIS pages II-52 to II-56). Alternative D (Draft preferred) would increase the use of prescribed fire by less than 5 percent over alternative C (current). With stringent mitigation measures, escaped prescribed fires pose minimal risks in the Appalachians (Draft EIS page IV-123).

- 4 We feel that adequate data was available to permit scientific evaluation of the alternatives. None of the herbicides evaluated have been found to bioaccumulate, they do not concentrate to unsafe levels in the food chain. See appendix A, page 7-3.

- 5 I note that one of the proposed herbicides is glyphosate ("Roundup"), which is so toxic that the user is given detailed warnings by the manufacturer (when purchasing for home use). Is this appropriate for aerial spraying in areas used by humans?

- 6 I realize that the Forest Service has limited funding. I believe it would be better to treat fewer acres each year, or to do nothing, than to employ herbicides and fires as a major part of the program. I believe the Forest Service should utilize a program that eliminates herbicides and fires as much as possible (0 to 5%), and emphasizes manual, mechanical, and biological methods. None of the alternatives described in the EIS fit this description.

- 7 In addition, the alternatives ignore another need of the Appalachians — employment of local residents. Instead of bringing in chemical companies for herbicide application, the program should utilize local labor in manual and mechanized control of vegetation.

We need to preserve the forests for the future, and to use them in a manner that is safe for humans and the environment.

Yours truly,
Ann L. Grier

- 5 Yes, Roundup is a low-risk herbicide when appropriate precautions are followed (see mitigation measures in chapter II; page II-58 through II-65 of DEIS). Warnings on labeling are required by law; specific wording is often required which emphasizes the seriousness of the applicator's job when dealing with concentrates as received from the manufacturer and later when diluted for use..
- 6 For the expected results of treating fewer acres per year please see the discussion of alternative B, and for no management please see alternative A discussion.
- 7 Herbicide application is done either by Forest Service crews or by persons contracted by the Forest Service. Contracts are bid on by interested persons, but are not currently awarded to the chemical companies. See also the response to comments in Letter No. 57, Comment No. 3.

Copies :

The Honorable Herbert H. Zedeman
 U.S. House of Representatives
 1518 Longworth House Office Building
 Washington, D.C. 20515

The Honorable John W. Warner
 United States Senate
 SR-421 Russell Senate Office Building
 Washington, D.C. 20510

The Honorable John W. Daniel
 Secretary of Natural Resources
 525 Ninth Street Office Building
 200 Ninth Street
 P.O. Box 1475
 Richmond, Va. 23212



February 8, 1989

Mr. Steve McCorquodale, Team Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, Ga. 30367

Dear Mr. McCorquodale:

This responds to your request for comments on the draft Environmental Impact Statement (EIS) titled, "Vegetation Management in the Appalachian Mountains", November 1988. Overall, I support the conclusions and recommendations reached. It is a very thorough documentation of the impacts and benefits at stake depending on the alternative chosen.

Given the eight options considered, the preferred alternative (D) is closest to what I believe is best for the national forests in the Southern Appalachians. The major concern I have about it is the great increase in herbicidal treatment, knowing that long-term effects for many of the compounds are still not well understood. That bothers me because these mountains are the last bastion for many rare to endangered species of plants and animals. I'm just not "comfortable" with the level of analysis completed by the Environmental Protection Agency (EPA) and others.

That's not to say that I oppose the use of herbicides, for they can be applied with minimal short-term side effects if the proper safety and application techniques are followed. Would the following compromise between the preferred alternative and alternative E (the one I almost like the best) be possible:

Method	Alternative (percent acres treated)		
	D	D'	E
Herbicide	26.3	21.3	10.3
Mechanical	15.2	15.2	24.8
Fire	37.1	37.1	25.3
Manual	20.7	25.7	38.2
Biological	0.7	0.7	1.4

This keeps manual treatment about the same as current, and does increase the use of herbicides a modest amount. Perhaps the per acre costs will also be somewhat improved over alternative E, a valid concern given the tight federal budgets you are facing.

Response to Comments in Letter No. 325

From: James H. Burbank

Comment No.

Response

- 1 Alternative D has been modified in the Final EIS and reduces herbicide use to nearly your recommended level (22.5 percent of the vegetation management program). Reductions were greatest in roadside maintenance (where potential public exposure is higher than most other activities) and wildlife openings; these two activities account for 90 percent of the total reduction in herbicide use. Selective herbicide treatments (direct application to individual plants) have also been increased; in addition to mitigation measures controlling the type, amount, and application methods of herbicides used (Draft EIS pages II-58 to II-65), these changes should protect populations of threatened, endangered, proposed, and sensitive species very well. In modifying alternative D, manual methods were increased only slightly (to 21.4 percent of the program). The main reasons for this are that manual methods are much less effective than herbicides in providing precise vegetation control, and they pose the highest risks to worker safety.

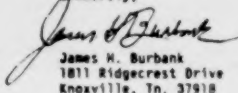
-2-

My remaining comments will be in the order presented in the draft EIS.

- 2 II-50 (19). Consideration should be given to minimizing grape control, even in site index stands of 60+ if this is in key black bear range. As you know, the Southern Appalachians are home to one the last large populations of this species in the East. Public concern has intensified to protect this population in light of unknowns related to conserving biological diversity (i.e., assuring viable populations). High site index areas may also be key denning habitat for this species. The cyclic nature of hard mast makes such soft mast species as wild grapes significant alternatives in times of mast failure.
- 3 II-51 (21). It is not clear if the low-growing shrubs and grasses mentioned here are native or planted. Research done by Dale Fowler, Tennessee Valley Authority, has shown that excellent results can be gained by the judicious encouragement of native species, including forbs, in transmission line rights-of-way.
- 4 II-55 (13). Later, the use of foam lines are noted as one way to establish fire lines. Could this and/or scarification not also be used to protect wetlands?
- 5 II-57 (10). It is not clear what "displacing" vegetation means. I assume that is the use of root rakes or other similar equipment, not such hand tools as chain saws or brush axes to selectively remove unwanted woody species.
- 6 II-60 (9), last paragraph. While realizing that EPA establishes restrictions for pesticide use it would also be good to note that other agencies, such as state regulators or the U.S. Fish and Wildlife Service, may also place restrictions on their use.
- 7 II-65 (3). I assume that permitted use of livestock on balds will not occur where conflicts with wildlife use are likely, i.e., in wildlife management areas or other sensitive bald habitats.

Thanks for the opportunity to comment.

Sincerely,


James M. Burbank
1811 Ridgecrest Drive
Knoxville, Tn. 37918

06816

- 2 See response to comments in Letter No. 320, Comment No. 3.

We, too, are concerned about maintaining viable populations of black bear. Each Appalachian Mountains national forest developed standards and guidelines to ensure that bear population objectives for each forest are reached. Most bear managers agree that black bear populations are increasing or remaining stable throughout the Appalachians and that illegal kill rather than habitat is more likely to limit populations.

- 3 Where practical, the use of native species are encouraged over non-native species as in mitigation measure number 23, also on page II-51 of the Appalachian Mountains Draft EIS.

- 4 This is a good observation. In fact, mitigation number 11 on Draft EIS page II-54 specified use of firelines "with minimal soil disturbance" within filter strips around wetlands. We have modified measure number 13 to correct the problem.

- 5 Tools that "displace" vegetation, as we use the phrase in this mitigation measure, refers to those that dislodge or uproot the vegetation thereby increasing the probability of increased plant mortality. Hand tools such as chainsaws or brush axes are not in this category, but tools such as raking, disking, or piling tools when used to uproot and move the plant material offsite are included. This has been clarified in the Final EIS.

- 6 Chapter II text has been changed in response to this comment.

- 7 That is correct. Each bald, as specified by mitigation measure number 25 on page II-52 of the Appalachian Mountains Draft EIS, will have a management plan that will evaluate coordination requirements with other uses such as wildlife, fisheries, recreation, soil and water, etc. This mitigation measure has been revised in the Final EIS to reflect these examples.

800 Mulberry Road
Otto, North Carolina 28763
February 8, 1989

United States Forestry Service
1720 Peachtree Road N.W.
Atlanta, Georgia 30367

Dear Mr. McCorquodale:

In response to your request for comments relating to the environmental impact statement which you granted me the privilege of reviewing, I offer you the following:

- 1) The report is cumbersome and poorly organized. (a suggestion for a more manageable outline is attached.) Hazards analysis terminology pp 3-2 is more a review of procedures and results than definitions.
- 2) The content seems trivial at times. It is although every study - no matter how obscure - was pulled into this manual. Some of the tables such as pp 4-27 and 4-29 could well be eliminated without diminishing meaning. Pp 3-7 diagram relating toxicity to lethal dose is so obvious that it insults the intelligence. Pp 4-54 et al could well be summarized Pp 4-40, 41, 42, and 43 are superfluous to the discussion provided. Pp 4-45, 46, and 47 contribute little or nothing to the discussion. Pp 4-50 - 60 need only be summarized with reference to such tables in the appendix. It would take too much space to list all the tables that resulted more in boredom than information. But this list gives you an idea of my response placement of such data.

The very style of expression was sometimes exasperating, such as "0.2 years" (pp 4-39) instead of "two months" or "60 days."
- 3) The contents seem to be repetitive because of the organization of the study. Almost all of Part III seems with 2,4D in one way or another, but the title of the section is "Human Health Hazards."

List after list of different aspects of herbicide characteristics and uses become mind numbing.
- 4) The dangers due to the use of some herbicides, particularly 2,4D, seem to be minimized in a mass of numbers and observations.

Continued

Response to Comments in Letter No. 326

From: Mary Ann Williams

Comment No.	Response
1	We appreciate your suggestions. The interdisciplinary team views its writing assignment as equal in importance to the analysis. Good communications is a top priority. While many reviewers commented that this very complex technical subject has been handled very well, some may still find it overly complex.
2	The commenter appears to be responding to the Risk Assessment which is appendix A in Volume II of the Draft EIS and is a rigorous review of herbicide information used in the analysis of this treatment method. For a more general and less scientifically precise treatment of this information please see chapter IV of the Draft EIS (Volume I).
3	The listing of various herbicide effects is appropriate in appendix A - the scientific background for chapter IV information.
4	The scientific record of 2,4-D is 40 years old at this point; the volume of information is adequate to summarize. Please also see mitigation number 7 on page II-59 of the Draft EIS which puts a significant restriction on any further use of 2,4-D, 2,4-DP and tebuthiuron. In the Final EIS, class B and C herbicides are not permitted for use without Regional Forester approval, and further analysis and additional mitigation measures.

Mr. McCorquodale, U.S. Forestry Service:

4) Continued

Pp 3-10 "In several cases, the recovery has not been complete."

Pp 3-17 "...2,4-DCD found to be a weak tumor promoter." This would be significant in individuals predisposed to cancer.

5) I take issue with some of the statements that seem so general as to be meaningless or even untrue.

Pp 4-17 "There is only a small possibility that the resident would immediately pick and eat a garden vegetable (without washing it)..."

Pp 4-23 The discussion of residue in game animals is loaded with non-specific terms; i.e., "one representative animal" "was assumed" X9 "is similar to"

Was an actual study done?

5

Pp 4-24 "Law et al (1980) measured the level of Phenoxy herbicide on cloth patch samplers attached to a person who walked through a treated area." What kind of a sample is "a person"?

I appreciate the fact that my comments are highly critical - and this seems unfair in view of the enormous amount of work and money that went into this publication. In balance:

- 1) The work is most comprehensive.
- 2) The section on "History of fire..." was enlightening and clearly written.
- 3) The section on endangered and sensitive species was interesting - and frightening. Both herbicides and mechanical soil disturbance appear to be significant threats to them.

6

In summary, the vast amount of data collected does not convince me that widespread use of herbicides is either necessary or safe. Specific laboratory data points to detrimental effects.

7

No studies speak to accumulation of products in soil or atmosphere over prolonged time frame - particularly in view of increase in use of such agents. The balance of nature is once more being manipulated by man in the name of "progress" and "economy" - and it both frightens and angers me.

Respectfully,

Mary Ann Williams

Mary Ann Williams

MAW/hw
Attachment

- 5 The cloth patches (not the person) were the sample. Patches were placed on various parts of the workers clothing to determine worker and potential public exposure to herbicides in treated areas.
- 6 Statistics indicate that, nationally, peak use of all pesticides was in 1982 and that we as a society are retreating from dependence on these products at all levels. Increased acreage treated in alternative D is offset by lower rates per acre, more selective application methodologies, and a very limited selection of herbicides which pose minimal health risk and have short half-lives which contributes minimal environmental impact. In the Final EIS, selective treatments have been increased to 90% and aerial application reduced to only 400 acres on utility rights-of-way in the 5.2 million-acre Appalachian Mountains area.
- 7 All of the class A herbicides (table II-1) proposed for use have half-lives of 63 days or less. Most of our treatments in the general forest area for wildlife habitat improvement and site preparation for reforestation or stand improvement occur only 2 or 3 times on a given area in a 60-120 year period. Rights-of-way treatments occur 2-5 years. In both cases, with the short half-life herbicides, no accumulations could occur.

SUGGESTED FORMAT

Contents

Introduction

Purpose of Study
Organization of study
Herbicides Used
 Purpose
 Frequency

Vegetation Management

Application Guidelines
Distribution Plan
Residue Studies

Wildlife/Aquatic Hazard Analysis

Human Health Analysis

Sources of Toxicity
Degree of Threat
Studies on impact

Reproduced from poor document.

To USPA. Forest Service

1

I strongly oppose ground
and aerial spraying of herbicides
in the National Forests. Instead
of spending money on toxic &
dangerous chemicals, spend it
on more manual labor efforts.
Please to not take the
chance of endangering people,
wildlife, water systems &
plants by the use of dangerous
chemicals that would be hard
to get rid of if we ever
need to.

JOHN JAMES AUDUBON (1795-1891)
Scarlet Ibis, 1837 (Havell Pl. 397)
Watercolor on paper: 2 1/4 x 2 9/16 in.
Buffalo Society of Natural Sciences

Jay Pfeil

U. Pfeil
106 A. West
V.M.T.
Black Mt.
N.C.
28711



U.S.D.A. Forest Service
VMT Room 362 South
1720 Peachtree Rd. N.W.
Atlanta
Georgia

30367-9102

Response to Comments in Letter No. 327

From: Jay Pfell

Comment No.

Response

- 1 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. Please also see response to comments in Letter No. 22, Comment No. 1 and Letter No. 57, Comment No. 3.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

SALUD, NC

U.S.D.A. Forest Service
VOC Room 382 South
1720 Peachtree Road N.W.
Atlanta, Georgia 30367-9102

To whom it may concern:

I strongly oppose both ground and aerial spraying of pesticides in the National Forests. These are extremely toxic chemicals whose detrimental present and future impact on human health, wildlife, plant ecology, and water systems has not been responsibly assessed. I advocate the use of other means of controlling unwanted vegetation that have a less negative impact on the total environment.

Sincerely,

Shalee Arias

My address is:

PO Box 818, Saluda, NC 28773

Have you looked into rock dust or
gravel dust that re-mineralizes the
soil and makes trees stronger deterring
insects? Please consider this, more
info can be rec'd from Institute for a
Future - Berkeley, Calif.

Response to Comments in Letter No. 330

From: Shella Arias

Comment No.

Response

1 See response to comments in Letter No. 206.

P.O. BOX 139
LINVILLE, NORTH CAROLINA 28646

GRANDFATHER MOUNTAIN

"Carolina's Top Scenic Attraction"

February 6, 1989

Mr. Michael F. Anderson, District Ranger
U.S. Forest Service
P.O. Box 519
Marion, NC 28752

Dear Mr. Anderson:

1 Of the five management methods listed in your letter of January 30, I am in sympathy with the prudent use of four of them--everything except item #4, Herbicides. Not only is herbicide use unsightly when it is practiced as last summer along highways like N.C. 181 between Morganton and Jonas Ridge, it is bound to add to the already excessive poisoning of the earth by acid rain, etc. I do not believe it should be the official position of any United States government agency to deliberately add to the contamination of our soils, streams, or forests.

Best regards,

Hugh Horton

Hugh Horton

HR/jw

Response to Comments in Letter No. 346

From: Hugh Morton

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

The herbicides analyzed in this EIS can be used in a manner which pose less risk to humans and their environment than many of the tools which have been considered as having acceptable impact on the environment. Ten of the herbicides proposed for use in southern forests have been shown to have half-lives of less than 2 months in SOUTHERN FORESTS.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

February 7, 1989

Dear Steve McCorquodale,

In appreciation of and response to the D.E.I.S. of Vegetation Management in the Appalachian Mountains Appendices Volume II I would like to make the following comments.

- 1 I am opposed to the application of herbicides on National Forest and National Grasslands. It appears to me that if the Forest Service remove itself from the timber and hunting businesses (two other activities I oppose on national lands) we could eliminate a considerable amount of herbicide usage.

From manufacture to application herbicides are neither a risk free nor fail-safe technology. And, considering the complexity of natural ecosystems, it seems unlikely the effects of their utilization could either be predicted or known with certainty.

I hope you will reconsider not only your plans for using herbicides

Response to Comments in Letter No. 347

From: Charlie Smithers

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

The items mentioned "timber and hunting" that support vegetation manipulation are addressed in the Forest Land and Resource Management Plans prepared by each forest. Please see the relationship of this document to the management of the forest on pages I-1 through I-3 in the Draft EIS.

but also your reasons for doing so. I hope also that the future direction of the National Forest Service will be toward placing greater emphases on the natural development and intrinsic value of our natural ecosystems.

Enclosed are two recent public reports which exemplify ramifications of this issue.

Thank you.

Sincerely,
Charlie Smithers
2232 Memorial Ave., SW
Roanoke, VA 24015

Reproduced from poor document.



FEBRUARY 7, 1989

USDA FOREST SERVICE
1720 PEACHTREE RD., NW
ATLANTA, GA 30367

DEAR FOREST SERVICE:

- 1 I AM APPALLED TO LEARN THAT YOU HAVE INDICATED YOUR PREFERENCE FOR MANAGING VEGETATION IN THE APPALACHIAN MOUNTAINS AS ALTERNATIVE "D", USING OVER 63% OF THE TREATMENT AS FIRE AND HERBICIDES! OUR ENVIRONMENT IS ALREADY THREATENED BY TOXIC CHEMICALS, HAZARDOUS WASTE, ACID RAIN, CLEAR-CUTTING AND GARBAGE! WHY CONTRIBUTE TO THE DESECRATION OF OUR EARTH, WHEN NOT NECESSARY? I URGE YOU TO SERIOUSLY RECONSIDER YOUR CHOICE AND TO LISTEN TO THE VOICES OF THE PEOPLE. HUNDREDS HAVE ALREADY EXPRESSED DISPLEASURE WITH HERBICIDES.
- 2 WHY NOT USE MANUAL AND MECHANICAL METHODS TO CONTROL THE VEGETATION, THEREBY PROVIDING EMPLOYMENT OPPORTUNITIES FOR APPALACHIAN RESIDENTS AND AVOIDING THE USE OF CHEMICALS?

THANK YOU FOR THE OPPORTUNITY TO BE HEARD.

Sincerely,
Peggy Larkin
16 South 28
Lawrenceville, GA 30047

Response to Comments in Letter No. 348

From: Peggy Lasher

Comment No.

Response

- 1 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Please also see response to comments in Letter No. 22, Comment No. 1 and Letter No. 57, Comment No. 3.

- 2 Manual and mechanical methods are very much part of the program and a breakdown of projected acres treated by activity is found in the description of the preferred alternative, page II-9 in the Draft EIS. Chapter I in the Final EIS has been expanded to explain the relationship of tools for each activity. Also, please refer to management requirement number 1 and 3, pages II-45 and II-46 in the Draft EIS which require site specific analysis and IPM for vegetation management. During this process the most appropriate tool choice is determined.

Feb. 10, 1989

U.S.D.A. Forest Service
 VMT Room 382 South
 1720 Peachtree Rd. N.W.
 Atlanta, Georgia 30367-9102

To The U.S.D.A. Forest Service,

- We strongly oppose the increased use of herbicides in our national forests, particularly the increase in aerial spraying. These herbicides are extremely toxic chemicals, of which the impact on human health, wildlife, plant ecology and water systems has not been fully assessed.
- 1 In an October article of Natural Food & Farming (1988) by Rick McGuire, there is indications that there are herbicides which have been cleared for use because they do not contain dioxins but which actually contain dioxin precursors, which may, upon release into the environment, be changed into dioxin.
- 2 We feel the general public is unaware of great dangers that the increased use of herbicides present, partially, because as far as we can tell, there are no warnings or indications as to what areas are or will be sprayed and we are avid hikers & campers! We urge you to consider alternative means of controlling vegetation which will have a decreased negative impact on the total environment.
- 3



Thank you for your time - Leo & Genie Wickes

Response to Comments in Letter No. 349

From: Leo & Genia Micker

Comment No.

Response

- 1 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 We have reviewed this article and have determined that it is an editorial rather than a scientific report. Throughout the EIS we have gone to great effort in using only scientific information that has undergone peer review to support conclusions. Please see the references cited in responses to comments in Letter No. 169, Comment No. 2.
- 3 Please see mitigation measure number 10 on page II-61 of the Draft EIS which requires signing of all areas treated with herbicide.

2-10-89

Dear Sir,

1 We are waiting in response to your Draft Environmental Impact Statement of Vegetation Management in the Appalachian Mountains.

We are both hikers, hunters, and conservation organization members.

While we do not oppose some timber harvesting and additional road building within USFS lands, however, we do think there is too much harvesting of timber and some unnecessary road building.

We do oppose an increase in timber harvesting and road

Marked in original

Marked in original

building, especially here in Quabbin State Forest.

We think more time and money should be spent on maintaining campgrounds and trails.

Respectfully yours,

David and Judy
Chisholm

RT 11 Box 158
Ashboro, N.C. 27203

Response to Comments in Letter No. 350

From: David & Judy Chisholm

Comment No.

Response

- 1 The issues you raise, timber harvest quantity, road building, and recreation allocations are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest. Please see page I-3 for those activities addressed in this EIS. You may wish to contact the Forest Service office in your area.

Mrs. Tom Hay
89 Junaluska Rd., Andrews, N.C. 28901

Feb. 9, 1989

Dear Mrs. M. C. Conqudale,

I don't know why in the world the Forest Service would want my comments regarding its practices when I am against just about everything you do.

They put moisture in the air thereby cooling it.

1 They help retain top soil and thus prevent erosion while retaining moisture in the earth.

They exchange carbon dioxide for oxygen.

They supply fiber and food for so many wild life.

In light of the above, why in God's world go you around treating it as a monetary item.

I hope after a bit of air God

Response to Comments in Letter No. 351

From: Ardith B. Hay

Comment No.

Response

1 Comment noted.

-3-

Mrs. Tom Hay
88 Jurebake Rd., Andrews, N.C. 28901

One animal only man is capable
of destroying the environment
and seems hell-bent on doing
so.

Please do not send any more
costly books of Forest Service
reports. Nothing I say or do
will make one bit of difference.

I wish I could some time tell
you why this family holds the
Forest Service in such low esteem.
It goes back to the late 20's when
Andrew Mellon, through the help
of the Intonas, tried to take over
the property where Monticello
Lake is now, or would be if there
were enough water now to fill it.
Mellon's minions even brought
in sheep - killing dogs to decimate
flocks so the settlers would give
up and sell out for a pittance.
My husband's family couldn't
be run out, but there's bitter-
ness and always will be.

Sorry, but I just don't want
to be bothered anymore.

Sincerely,

Ardith E. Hay
(Mrs. Tom Hay)



← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

The analysis is credible, professional and comprehensive. The impacts are only qualitatively determined (this is probably unavoidable). Therefore, continual monitoring and management will be required to determine and control the impacts. I am not able to verify the technical information, but it is well presented and well considered in the analysis.

Why?

Comments on Alternatives:

I agree that Alternative D is preferable. Although I sentimentally wish for forests in a natural state, I realize that most harvested forest land today would benefit from vegetation management activities. I also fear large scale use of pesticides, but I think that Alternative D is practical and that its success will depend on good management.

Why?

Other: I think the EIS is an outstanding document, representing much commendable work. The EIS and management plans are a marvelous, unique set of books, and I intend to preserve mine for reference and information. I am a conservative person, environmentally speaking. I speak for myself in the foregoing comments, although I am a member of the Alabama Conservancy. I am daring, on my own

Why? initiative, to support what you have accomplished thus far. I only hope the forests' products will be used only when needed and profitably, not merely for the sake of production quotas and jobs. Our national forests' products need not compete with private enterprise but should provide a reserve as needed for genuine future demands of the lumber industry and of public needs.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Mark M. Schmidt *Mark M. Schmidt*
Conservancy, speaking
for myself only
Name: First MI Last (Organization)
411 COLE DR.
Street
HUNTSVILLE, AL 35802
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 352

From: Dalton M. Schmidt

Comment No.

Response

- | Comment No. | Response |
|-------------|--|
| 1 | Thank you for your comments. Your concern about monitoring environmental impacts has been included in the content analysis of all comments received. Additionally, the "Implementation" section of the Record of Decision will contain further discussion of monitoring. |

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Looks like the EIS team did their homework well. The scientific analysis appears very thorough and complete and was presented in an orderly and easily digested manner. I was also impressed with the qualifications and scope of the individual team members.

Why?

Chapter IV was an effective review of pertinent literature and seemed to express the state-of-the-art knowledge about the consequences of the proposed vegetation management techniques. I especially appreciated the article by Neary and Michael in Appendix Vol. II.

Comments on Alternatives:

I feel that either alternative C or D are acceptable, basically because they provide a good balance between timber and non-timber outputs.

Why?

The difference between these two alternatives boils down to trading the mechanical means of C for the herbicide usage of D. This seems to be a sound tradeoff. I'm more concerned about the risk of soil and productivity losses from intensive mechanical operations than the risks from herbicides. I think the EIS makes a good case for the wise use of herbicides in forestry operations.

Other:

My primary use of National Forest lands in the Appalachian Mountains has been for forest recreation. I've hiked extensively along the Appalachian Trail in Georgia and North Carolina and visited half of the wilderness areas in the region. For the most part I have been pleased with the management on Forest Service lands and its effect on the environment. I do not feel that a major shift (such as that proposed in alternative A or on the other extreme alternative H) in vegetation management methods is either warranted or desirable.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Michael G. Shelton Individual
Name First M Last (Organization)
P. O. Box 2549
Street
Monticello, AR 71655
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 353

From: Michael G. Shelton

Comment No.

Response

- 1 The Interdisciplinary team is pleased that you found the analysis well done and useful. Your preference for alternative C or D was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

1

Why?

Other:

Why?

I SUPPORT ALTERNATIVE F. THE PRIMARY REASON FOR THIS IS THAT PLAN F USES NO HERBICIDES TO ACCOMPLISH GOALS SIMILAR TO THE ALTERNATIVE. I ADVOCATED BY THE EIS TEAM. SINCE THE NUMBER OF ACRES TREATED IS THE SAME, THE COST PER ACRE LOWER, AND OTHER BENEFITS SIMILAR, I THINK THAT THE POTENTIAL HEALTH AND ENVIRONMENTAL PROBLEMS ASSOCIATED WITH THE USE OF HERBICIDES SHOULD BE AND CAN BE AVOIDED

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

WILLIAM E. HREZO
Name: First MI Last (Organization)
314 SIXTH AVENUE
Street
RADFORD VA 24142
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 354

From: William E. Hrezo

Comment No.

Response

- 1 The commenter's preference for alternative F was included in the content analysis of all comments received. Also see response to comments in Letter No. 522, Comment No. 1.

None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-58 to II-65 in the Draft EIS. As stated in mitigation measure number 1 on page II-44 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides. An additional mitigation measure that requires class B and C herbicides (table II-1) be used only after Regional Forester approval has been added in chapter II of the Final EIS.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I think you have done a superb job of analyzing the problems. And problems you do have in the hills. But where it is inaccessible, I think you should leave it as God created it.

- 1 Why? I do not think we should use any poisons. They are designed to kill and that is what they do, whether plant, man or animal. I don't care how remote the area is, sooner or something will come in contact with it.

Comments on Alternatives: I think Alternative F is the best one. As John 3:37 says "No one can have anything unless God gives it to him." And God has given us such a beautiful world, but men in politics it little by little. God expects us to be good stewards of what he has given us. When Jesus said to the 5000 men with 5 loaves & 2 fish he said, "Bless the people. Let every let us not waste a bit." He didn't say, "There is more where that come from."

- 2 Other: In the remote areas let the local people cut the beech & other hardwoods for firewood instead of poisoning them.

Why? In my experience here on my farm, the oaks have provided the needed shade from the sun in hot dry summers for the pine seedlings & soon were taller than the oaks, especially on the hill sides.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Mrs. William E. Clarke

Name: First MI Last (Organization)

P.O. Box 127

Street

Oden, AR

71961

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 355

From: Mrs. William E. Clarke

Comment No.

Response

- 1 The commenter's preference for alternative F was included in the content analysis of all comments received. Please see response to comments in Letter No. 522, Comment No. 1.

None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-58 to II-65 in the Draft EIS. As stated in mitigation measure number 1 on page II-44 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides. An additional mitigation measure that requires class B and C herbicides (table II-1) be used only after Regional Forester approval has been added in chapter II of the Final EIS.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1, Letter No. 560, and Letter No. 348.

- 2 We agree. Many times this occurs where feasible and you may wish to contact the local District Ranger in your area. Many times local road and weather conditions, oversupply of firewood, critical timing to complete site preparation prior to reforestation, need to produce dead standing snags for certain wildlife species, and many other factors determine the decision on what method to use and whether firewood can be removed.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: See inclosure 1.
I recommend that you add the term "Prescribed Fire" to the Glossary. Then on page iv of the Summary Introduction to Volume I, under the "Prescribed Fire," change the first sentence to read: Prescribed fire is the planned use of fire under specific conditions (see Glossary).

Why? Prescribed fire is one of the most economical and efficient means available for site preparation, wildlife habitat improvement, fuel reduction to reduce danger of wildfire, and control of vegetation overgrowth. Herbicides are also used to achieve these same goals; herbicides may also be used before the prescribed fires to increase their effectiveness. However, the use of the term "prescribed fire" needs to be clearly defined so that the reader will understand all of the benefits of prescribed fire.

Comments on Alternatives: See inclosure 2.
I prefer Alternative H. This alternative responds to my concerns for efficient and economical site preparation, provision for adequate wildlife habitat, and safe use of herbicides.

Why? Alternative H provides for at least 42,846 acres more treated areas than any of the other alternatives. Alternative H also has acres treated by prescribed fire (61,185 acres) and more acres treated by ground applied herbicides (42,945 acres) and aerial applied herbicides (8,700 acres).

Other: Another reason for calling attention to prescribed fire early in Volume I, is that prescribed fires and herbicides are both used essentially for the same management goals.

Why? The mandatory mitigation measures in the DEIS, will alleviate most fears on the increased use of herbicides. Also, including "prescribed fire" in the Glossary will promote a clearer understanding of its use.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Philip A. Drumheller
Philip A. Drumheller
Name: First PH Last (Organization)
309 Briarhill Road
Street Enterprise, Alabama 36350
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 356

From: Philip M. Drumheller

Comment No.

Response

1 Prescribed fire is defined and described in detail on Draft EIS pages II-20 to II-23 in section II.D (Description of Methods and Tools). Our approach is that, when a term is thoroughly defined in the text, it is not put in the glossary. Since section II.D is clearly shown in the Table of Contents, we think most readers will readily be able to find the definition and description.

2 Your preference for alternative H was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Inclosure 1

RESPONSE

Comments on Scientific Analysis:

This draft Environmental Impact Statement needs to describe the role of prescribed fire more clearly in one place so that the reader becomes aware of its many beneficial uses and that herbicides may precede it, to increase its effectiveness. The best place for this appears to be the Volume I Glossary on page VII-6. For example -

Prescribed fire — When weather and fuel conditions are right, fires are intentionally set to achieve certain vegetation management goals—
 Site preparation to improve conditions for young tree seedlings;
 Wildlife habitat improvement;
 Fuel reduction to reduce danger from wildfire;
 Control of vegetation understory.

In the brown-and-burn method of site preparation, herbicides are used to dry fuels, and to improve the effectiveness of prescribed burning. Most of this burning is done by crews walking through the areas to be burned with ignition devices. However, aerial ignition using a helicopter may be used. This permits more acres to be fired when the weather and fuel conditions are ideal, allowing burners to accurately follow the prescription.

System	Alternative Herbicide	Mileage by Projected Size/Year		Inclosure 2		Assessment	
		Acre	Fire	Manual	Dist.	Ground	Aerial
A	0	0	0	0	0		
B	6,002	12,415	22,833	14,058	266		
C	24,621	25,303	46,202	38,724	1,073		
D		19,763	48,413	17,059	890	95,300	200
E	12,460	30,440	30,985	46,830	1,000		
F	0	30,200	49,852	49,848	1,073		
G		20,997	0	39,862	870	2,761	2,100
H		23,774	61,185	35,345	1,208	44,900	8,700

Comparison of
Total Acres Treated

A 0
 B 53,270
 C 139,323
 D 139,323
 E 122,645
 F 130,123
 G 107,190
 H 173,169
 H H H
 41,896 acres
 removed then
 130,513 acres
 130,513 acres

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use the form though.

However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: *More than adequate*

Why?

1 Comments on Alternatives: *D is promising. We know from experience that herbicides and fumigants fire do best damage to environment and soil at best cost.*

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

DR. H. HETTINGER
 Name First M Last (Organization)
122665THRD LN
 Street
ATHERTON IN. 47303
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 357

From: Don W. Kettenbell

Comment No.

Response

- 1 Your preference for alternative D was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

To: U.S. Forest Service
Atlanta, Ga.

2/6/89

1 Re: Re EIS due soon.

I prefer less use of herbicide

Tam *helfer*

1280 Hannah Branch Rd.

Burnsville NC 28714

Response to Comments in Letter No. 358

From: Tom Lodge

Comment No.

Response

- 1 Your preference for less herbicide use was included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

To: U.S. Forest Service
Atlanta, Ga.

2/6/89

1 Re: Re EIS due soon.

I prefer less use of herbicide

Tam *helf*

1280 Hannah Branch Rd.

Burnsville NC 28714

Response to Comments in Letter No. 358

From: Tom Lodge

Comment No.

Response

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Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

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Feb. 8, 1989

USDA Forest Service VMT
Room 362 South
1720 Peachtree Street NW
Atlanta, GA. 30367-9102

Dear Sirs:

As residents of the Appalachian Mountains we feel it is our responsibility to comment on your plans to increase the use of herbicides to control unwanted vegetation in our forest service lands.

First of all we do not feel that these chemicals are safe, and we have already become alarmed at our high cancer rate. Our drinking water comes from these same mountains and the majority of us use fresh ground water as our source of drinking water.

Secondly, land clearing has been, and still is, our main source of income. The new proposal to decrease the number of acres cleared by manual labor means fewer jobs for our population which already has a very high unemployment rate.

Please reconsider your upcoming proposal, and list us as adamantly opposed to the increased use of herbicides in our area.

Sincerely,

Eds Mella Garbarino

*P.S. No herbicides, please, especially
when I think there are safer and as
effective means of accomplishing the
same desired effect.*

Response to Comments in Letter No. 362

From: Ed & Melba Garbarine

Comment No.

Response

1 See response to comments in Letter No. 57.

CARL H. BRADLEY
SECRETARY



WALLACE G. WILKINSON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

FRANKFORT OFFICE PARK
18 REILLY ROAD
FRANKFORT, KENTUCKY 40601
February 8, 1989

Mr. Steve McCorquodale
Leader, Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

RE: Draft Environmental Impact Statement
Vegetation Management in the Appalachian Mountains

Dear Mr. McCorquodale:

The Natural Resources and Environmental Protection Cabinet (NREPC) serves as the state clearinghouse for review of environmental documents generated pursuant to the National Environmental Policy Act. The Commissioner's Office in the Department for Environmental Protection in NREPC coordinates the review process.

The above referenced document was reviewed by the agencies on the attached list. Comments from three of these agencies are enclosed for your consideration. If you have any questions, please contact me at the letterhead address or by calling (502) 564-2150.

Sincerely,

Valerie A. Hudson

Valerie A. Hudson
Deputy Commissioner for Special Projects

Response to Comments in Letter No. 365

From: Valerie Hudson

Comment No.

Response

This is a cover letter which requires no response. Comments attached to this letter are numbered sequentially as number 366, 367, and 368.

The following state agencies were given the opportunity to review and provide comments on the Draft Environmental Impact Statement - Vegetation Management in the Appalachian Mountains:

1. Natural Resources and Environmental Protection

a. Department for Environmental Protection

- Division of Water
- Division for Air Quality
- Division of Waste Management

b. Department for Natural Resources

- Division of Conservation
- Division of Forestry

2. Kentucky Heritage Council

3. Department of Fish and Wildlife Resources

4. Transportation Cabinet

5. Department of Military Affairs



Carl H. Bradley
Secretary



Wallace G. Wilkinson
Governor

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR NATURAL RESOURCES
DIVISION OF FORESTRY
627 COMANCHE TRAIL
FRANKFORT, KENTUCKY 40601

MEMORANDUM

TO: Valerie Hudson
Department for Environmental Protection

FROM: Donald A. Hamm, Director *DAH*
Division of Forestry

DATE: January 4, 1989

SUBJECT: Draft EIS - Vegetation Management
in the Appalachian Mountains

The Kentucky Division of Forestry's major concern with Vegetation Management in the Appalachian Mountains deals with the use of prescribed fire in hardwoods. Even though prescribed burning of hardwoods was not specifically spelled out in the EIS, the latitude to do so is certainly there.

- 1 We realize prescribed fire is a proven useful tool in some types of forestry and is one of the cornerstones of southern pine management. Prescribed fire has no place in established hardwood stands, and the Kentucky Division of Forestry is opposed to such use.

We have seen prescribed fire in hardwoods espoused by various groups at various times for wildlife habitat improvement, for stimulating advanced oak reproduction, and for fuel reduction. The use of prescribed fire in hardwoods for these or any other purposes is not acceptable regardless of the intensity at which that fire may be applied.

It has been a common fallacy of some people to equate management of hardwoods and pines. The value of hardwoods cannot be measured or their management justified solely on a volume per acre basis as it can be for southern pine. The real value of hardwoods is in their quality, and fire is the single greatest

Response to Comments in Letter No. 366

From: Donald A. Hamm

Comment No.

Response

- 1 The widespread use of fire to manage Appalachian Mountain hardwoods is not advocated in this document. As indicated in the table for preferred alternative D on page II-9 of the Draft EIS, no acres are specified for the use of fire for hardwood TSI treatments. Only 563 acres per year are projected for hardwood site preparation by fire. Prescribed fire in this alternative can be used to achieve some wildlife management objectives in hardwood stands; however, mitigation measure number 4 on page II-53 of the Draft EIS severely restricts its use by requiring that wildlife habitat must be limiting and is threatening species viability. Mitigation measure numbers 2 through 6 on page II-53 of the Draft EIS are specifically designed to minimize adverse effects to the hardwood resource, including the quality of timber produced.

Additionally, current research and ecological theory do not support the opinion on the necessity of an absolute exclusion of fire from Appalachian Mountain hardwoods. Chapter IV and appendix E of the Draft EIS discuss the history and effects of fire in the Appalachian Mountains. Recent studies, such as Sanders and others (1986), have shown that low intensity prescribed fires have little to no effect on stem quality of medium to large diameter mature hardwoods (Draft EIS, chapter IV, page IV-38). Some other research now indicates that the exclusion of fire from some hardwood types, especially mature oak stands on better sites, has altered the ecology of these stands thereby reducing the production of advance oak regeneration. Evaluating method effectiveness based on quality considerations alone is a questionable point if these stands cannot be adequately reproduced in the future. See also response to comments in Letter No. 367, Comment No. 2.

Memorandum
Page Two
January 4, 1989

risk to that quality. Hardwood veneer logs are often worth tenfold or more than their sawlog counterparts. Without quality in hardwoods, it is difficult to economically justify hardwood management at all.

Fire, even of low intensity, has the very real potential to destroy the quality of any hardwood stand through the wounds it creates which ultimately allow insects or disease to attack, reducing the tree's quality even if not totally destroying the tree's value. The Southern Appalachian Mountains have the capability to produce some of the finest hardwood timber in the world - but only with the exclusion of fire.

In summary, prescribed fire has no place in hardwood management. This should be spelled out in the EIS. Please contact Cary Perkins or Gene Reynolds of our staff if you should have any questions.

DAH:WCP:pf

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FISH & WILDLIFE
COMMISSION

WILL BEATTIE, PADUCAH
 GEORGE E. WARREN, BARNES
 JAMES D. WILKINSON, JR., LOUISVILLE
 DR. JAMES C. SALATO, COLUMBIA
 DR. JAMES R. RICH, TAYLOR MILLS
 CHIC COBB, WINCHESTER
 DOUG MENLEY, HAZARD
 DR. ROBERT C. WISE, GEORSON
 DAVID H. GOSSET, SOMERSET



COMMONWEALTH OF KENTUCKY

DEPARTMENT OF FISH & WILDLIFE RESOURCES
 DON R. MCCORMICK, COMMISSIONER

FD-36 (5-22-64) 584 3400

February 2, 1989

Ms. Valerie Hudson
 Commissioner's Office
 Department for Environmental Protection
 Natural Resources and Environmental
 Protection Cabinet
 18 Reilly Road
 Frankfort, Kentucky 40601

Re: Draft EIS - Vegetation
 Management in the
 Appalachian Mountains

Dear Ms. Hudson:

Members of my Environmental Section staff have reviewed the above-referenced document. Accordingly, we offer the following comments and recommendations.

1 The Kentucky Department of Fish and Wildlife Resources (KDFWR) prefers Alternative B over the other seven management strategies presented in this document. Our position is based on a combination of factors inherent to this alternative, including the low intensity of treatments, limited use of herbicides, minimal impairment of soil productivity, selective application of prescribed fires, negligible effects on water and aquatics, and overall benefits to wildlife. KDFWR is concerned, however, about potential biological impacts resulting from several proposed management techniques. The following paragraphs address these concerns.

2 The natural successional pattern for forests in the Mined Mesophytic Forest Region culminates in a hardwood forest climax situation with a very small portion comprised of pine woods. While prescribed burning is a beneficial tool for pine management, KDFWR feels that more emphasis should be placed on the hardwood component, with the exception of areas being maintained for red-cockaded woodpeckers. Once a hardwood stand is established, only periodic burns should be necessary to

Response to Comments in Letter No. 267

From: Don B. McCormick

Comment No.	Response
1	Your preference for alternative B was included in the content analysis of all comments received. Also see response to comments in Letter No. 261, Comment No. 2.
2	Comments noted. We agree that additional research is needed to understand and clarify the role of disturbances, especially that of fire in the regeneration of Appalachian Mountain hardwoods. See also chapter IV pages IV-32 and IV-46; page IV-151 items 8, 9, and 13; and appendix E of the Appalachian Mountain Draft EIS.

FISH & WILDLIFE
COMMISSION

MIKE BEATWRIGHT, President
 GEORGE E. HUBBARD, JR., Vice President
 JAMES D. WILKESMAN, JR., Louisville
 DR. JAMES C. SALATO, Columbia
 DR. JAMES R. RICH, Taylor Mill
 CHIC COBB, Winchester
 DOUG MENALET, Hazard
 DR. ROBERT C. WISS, Glasgow
 DAVID H. GOSBY, Somerset



COMMONWEALTH OF KENTUCKY
 DEPARTMENT OF FISH & WILDLIFE RESOURCES
 DON R. MCCORMICK, Commissioner

PHONE (502) 584-3400

February 2, 1989

Ms. Valerie Hudson
 Commissioner's Office
 Department for Environmental Protection
 Natural Resources and Environmental
 Protection Cabinet
 18 Reilly Road
 Frankfort, Kentucky 40601

Re: Draft EIS - Vegetation
 Management in the
 Appalachian Mountains

Dear Ms. Hudson:

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1 The Kentucky Department of Fish and Wildlife Resources (KDFWR) prefers Alternative B over the other seven management strategies presented in this document. Our position is based on a combination of factors inherent to this alternative, including the low intensity of treatments, limited use of herbicides, minimal impairment of soil productivity, selective application of prescribed fires, negligible effects on water and aquatics, and overall benefits to wildlife. KDFWR is concerned, however, about potential biological impacts resulting from several proposed management techniques. The following paragraphs address these concerns.

2 The natural successional pattern for forests in the Mixed Mesophytic Forest Region culminates in a hardwood forest climax situation with a very small portion comprised of pine woods. While prescribed burning is a beneficial tool for pine management, KDFWR feels that more emphasis should be placed on the hardwood component, with the exception of areas being maintained for red-rocked woodpeckers. Once a hardwood stand is established, only periodic burns should be necessary to

Response to Comments in Letter No. 367

From: Don R. McCormick

Comment No.	Response
1	Your preference for alternative B was included in the content analysis of all comments received. Also see response to comments in Letter No. 261, Comment No. 2.
2	Comments noted. We agree that additional research is needed to understand and clarify the role of disturbances, especially that of fire in the regeneration of Appalachian Mountain hardwoods. See also chapter IV pages IV-32 and IV-46; page IV-151 items 8, 9, and 13; and appendix E of the Appalachian Mountain Draft EIS.

Ms. Hudson
February 2, 1989
Page two

reduce fuel loads. As the stand approaches harvesting age, it may be beneficial to bring fire back into the picture as research has shown a necessity for fire in oak regeneration. Additional research may be needed to determine not only if fire is important to white oak regeneration, but if diskings contributes to higher regeneration in northern red oak trees.

- 3 KDFWR is strongly against prescribed burning during the growing season largely due to impacts affecting ground nesting birds and hardwood timber. When burning in the fall, current mast crop conditions should be considered because heat damage could limit availability of acorns. KDFWR currently feels that early spring is the overall best burning period for wildlife.

Wildlife openings should be burned, disked, or mowed only. Herbicides should be avoided except for elimination of undesirable grasses such as fescue, Johnson grass, etc. Maintenance of all designated permanent wildlife openings should be conducted at least every two years and should not exceed four years.

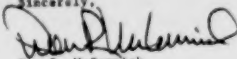
- 4 Furthermore, KDFWR is strongly against the aerial application of herbicides because of the possibility of affecting non-target species. Some selected steep slopes may be acceptable for right-of-way maintenance, but cliff lines adjacent to and within the right-of-way should be investigated for the presence of eastern woodrats (Neotoma floridana), green salamanders (Aneides aeneus), bats, and other species of interest, while adjacent streams should be investigated for the presence of blackside dace (Phoxinus cumberlandensis) and endangered mussels prior to any local disturbance.

- 5 One particular concern with mechanical methods of vegetation management is the excessive practice of piling, scarification, and raking on pine sites, which, by all estimates, seems to reduce site quality. It is important, however, that, regardless of the method employed, emphasis should be placed on erosion control.

- 6 KDFWR also strongly recommends the use of minimum 100 foot buffer zones maintained between timber harvesting areas and intermittent and perennial streams. Riparian buffer zones are essential for the healthy maintenance of water quality and provide habitats for numerous fish and wildlife species.

We thank you for the opportunity to comment. Should you require any additional information or assistance, please contact the Environmental Section at (302) 564-5448.

Sincerely,


Don R. McCormick
Commissioner

DRM:MSC:djm

cc: Pete Pfeiffer
Ted Crowell
Lauren Schaaf
John MacGregor, Nongame Project Coordinator
Environmental Section Files

- 3 Growing season burns are generally avoided, particularly during turkey nesting season. They are occasionally used, however, to accomplish specific resource management objectives. Restrictions in chapter II limit flame heights and burn intensity in mixed stands to a level where little damage to hardwoods will occur. While some loss of ground nesting birds is possible, these impacts are generally insignificant.

Generally, herbicides are used in wildlife openings to reduce undesirable grasses. Certain herbicides, however, may be used to create wildlife openings where mechanical means are not practical.

- 4 See response to comments in Letter No. 320, Comment No. 2.

As specified in the Draft EIS, mitigation measures on pages II-59 and I-60 further protect species that may face a toxic risk from the aerial application of some herbicides or additives.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

- 5 Scarifying tools (described on Draft EIS page II-25) cause minimal soil disturbance, erosion, and effects on site quality. Piling and raking are described on Draft EIS page II-27. Piling, which displaces little or no soil, poses minimal to low risk to site quality; raking, which does displace topsoil, poses high to extreme risk (see Draft EIS table IV-12, page IV-90, and pages IV-92 to IV-96 for disclosure of effects). In the preferred alternative, raking will no longer be allowed on any site.

- 6 Streamside buffers for timber harvest are specified in Forest Land and Resource Management Plans. Filter strips for prescribed fire and mechanical tools in vegetation management activities covered by this EIS must have a width, in feet, of at least 30 plus 1.5 times the percent slope (Draft EIS pages II-54 and II-57). Research by Swift (1986) at Coweeta found this width to trap at least 95 percent of soil eroded by unconcentrated surface runoff from newly-constructed roads. Most forests have stricter requirements than this one, anyway.

CARL H. BRADLEY
Secretary



WALLACE G. WILKINSON
Governor

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
18 RILEY ROAD
FRANKFORT, KENTUCKY 40601

MEMORANDUM

TO: Valerie A. Hudson
State Environmental Review Officer
Office of the Commissioner

FROM: Timothy Kuryla TK
EIS Coordinator
Division of Water

DATE: January 31, 1989

SUBJECT: DEIS, Alternative Methods of Vegetation Management (National Forest
Counties), EIS 88-20

Attached are the Division of Water comments for the Draft Environmental Impact Statement prepared by the U.S. Forest Service regarding alternative methods of vegetation management in the Daniel Boone and Jefferson National Forests (24 counties).

The Division of Water reviewed the Scoping Notice (EIS 87-13) for this DEIS.

td/trs

Attachment

cc: Terry Anderson, Standards and Specifications Section
Sherri Evans, Ecological Support Section
Maureen Merkler, Nonpoint Source Pollution Control Section
Mike Mills, Ecological Support Section

Reproduced from poor document.

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET

ENVIRONMENTAL REVIEW

Division of Water

Project Number: 88-20

Project Title: DEIS, Alternative Methods of Vegetation Management (National Forest Counties)

The Division of Water has reviewed this DEIS. The Division's comments suggest matters the Division desires to be considered in the FEIS.

III.
B.
3.

**AFFECTED ENVIRONMENT
ENVIRONMENTAL ELEMENTS**
Water and Aquatic Life

88-20 to 88-23

Analysis of the following federally endangered species need to be included here and in other appropriate parts of the FEIS.

1

Villosa trabalis

cumberland bean pearly mussel

Pleurobema plenum

rough pigtoe mussel

Pegias fabula

little winded pearly mussel

Lampsilis orbiculata

pink mucket mussel

Phoxinus cumberlandensis

cumberland blackside dace

2

The Division of Water recommends using herbicides that are least toxic to aquatic species and have short half-lives in soils.

3

In general, the mitigation measures appear adequate for most sites and situations. However, the Division of Water is concerned that no restrictions on vegetation management are delineated for areas having special protective designations, such as Research Natural Areas, Special Interest Areas, state outstanding resource waters, and state or federally designated wild or scenic river corridors. The FEIS needs to specify in which of those areas vegetation management is not an option, and to state the specific methods that will be employed in others. The Division recognizes that such decisions will vary from one forest to another and be evaluated as part of the site-specific environmental analysis. However, the Division believes minimum standards of protection for those areas should be specified in the FEIS, allowing the same or stringent standards to be applied on a site-specific basis.

4

Within designated wild or scenic river corridors, the Division of Water recommends aerial application of herbicides be used only if no other feasible alternative is available. In such instances, only minimally-persistent herbicides should be used and applied as large droplets; plus 100-foot buffers should be maintained on both permanent and intermittent streams to protect surface water quality. Buffers, in which no mechanical methods of vegetation management are used, of at least 30-foot width should be established along permanent and intermittent streams within designated river corridors.

Timothy Kuryla
Timothy Kuryla

FAR Coordinator
Division of Water

9/31/89
Date

Response to Comments in Letter No. 368

From: Timothy Kuryla

Comment No.

Response

- 1 We agree. These species have been included in table F-1 as recommended.
- 2 Please see mitigation measure numbers 5, 6, and 7 on pages II-58 and II-59 of the Draft EIS. These mitigations recognize your concerns. All the proposed herbicides have half-life of 65 days or less.
- 3 The decision of whether or not to do vegetation management can only be done after a site-specific analysis. At the beginning of each mitigation measure section in chapter II of the Draft EIS, we stipulate that these mitigations are the minimum standard. Each forest may be more restrictive, but not less.
- 4 Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS). Because of the restrictive criteria for its use and increased buffer widths, it is unlikely that any wild and scenic river corridor would be affected. You may want to consult with the Daniel Boone National Forest Forest Supervisor's office for specific information.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

OK

Why?

Comments on Alternatives:

1 My major problem is the discussions on socio-economics seems cursory. - I believe the taxpayers have the right to know the cost (including opportunity costs) and returns from the alternatives also I think the local people should have more definitive projections on the 35% of Why? receipts for roads & schools for the various alternatives.

Other: We have all but lost the right to select the most appropriate silvicultural treatments and as a result the additional costs, lost or lowered returns and absurd economic decisions are used to budget on the F.S. for even having timber Why? Sales. Unless some way of assessing and assigning these costs to the appropriate use or non-use the FS has little credibility with the general public.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

William E. Bolmer - self employed
 Name: First MI Last (Organization)
 7682 Sexton Woods Dr.
 Street
 Chamber, GA 30741
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 369

From: William E. Balmer

Comment No.

Response

- 1 Rigorous economic analysis was not desired by most people who commented. Many people suggested that if any economic analysis is done that it be a simple display of costs. Most found analyses such as those done in support of Forest Land and Resource Management Plans to be overly complex, confusing, and extremely difficult for the lay person to understand. Because this EIS incorporates the goals and objectives of plans, it necessarily incorporates plan's economic analyses, which, for those who request more detail, respond to that need.



North Carolina Department of Cultural Resources

James C. Martin, Governor
 Patric Dorsey, Secretary

Division of Archives and History
 William S. Price, Jr., Director

February 9, 1989

Mr. Steve McGorquodale
 Vegetation Management EIS Team
 U.S. Department of Agriculture
 Forest Service
 1720 Peachtree Road, N.W.
 Atlanta, Georgia 30367

Re: Draft EIS Vegetation Management in the Appalachian
 Mountains, Multicounty, ER 89-7648, CE 89-E-0000-0066

Dear Mr. McGorquodale:

We have received notification from the State Clearinghouse concerning the above project.

We are pleased to note that the potential impact of vegetation management procedures on cultural resources has been considered throughout the draft EIS. We also concur that most potential damage to cultural resources occurs during the use of mechanical methods, though other methods such as manual methods and fire treatments may also affect cultural resources.

1 It is important that cultural resource inventories be conducted by qualified personnel prior to all projects that have the potential to disturb such resources. We recommend that the forest archaeologist be consulted prior to each project. We notice that you have stated a priority for these inventories as well as the protection of resources that are identified. We look forward to working with the National Forests in North Carolina as the management plan is implemented.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966, the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at 36 CFR Part 800, and to Executive Order 11593, "Protection and Enhancement of the Cultural Environment."

Response to Comments in Letter No. 170

From: David Brock

Comment No.

Response

-
- | | |
|---|--|
| 1 | Mitigation measure number 1 (page II-44 of the Draft EIS) and numbers 11 and 12 (on page II-48) are included to ensure protection of cultural resources. All site-specific analyses must consider cultural resources, including those for projects which do not include mechanical treatments. |
|---|--|

Mr. Steve McCorquodale
February 9, 1989, Page Two

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Ms. Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763.

Sincerely,

Renee Gledhill-Earley

for David Brook, Deputy State
Historic Preservation Officer

DB:slw

cc: Rodney Snedeker
Bjorn Dahl
Clearinghouse



RD #1, Box 361
Rabun Gap, GA 30568
February 10, 1989

USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, GA 30367

Sirs:

This is a response to the proposal of USFS Southern Region dealing with control of vegetation. To an innocent and uninformed person from ages past, or perhaps a well informed one in the future, the proposal would seem designed to scorch and poison all the earth that has not already met that fate by one method or another.

- 1 At the rate of either burning or poisoning over half the 130,000 acres selected for treatment each year, I calculate that all but the small tracts of wilderness in our national forests will have been decimated in a few decades. The founders of our forest system did not intend for them to be made into tree farms.

Our medical and scientific histories are saturated with tragic consequences of human attempts to alter great expanses of the earth's surface when knowledge is not present upon which to depend.

I urge a "kinder and gentler" treatment of our treasured resources.

Thank you.

Sincerely,

Edward Caldwell
Edward Caldwell
Nancy Shaw
Nancy Shaw

CC Senators S. Nunn
W. Fowler
W. Smith

Response to Comments in Letter No. 321

From: Edward Caldwell and Nancy Shaw

Comment No.

Response

1 As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

All acres except for site preparation and timber stand improvement are treated in 1-6 year cycles; this reduces the total acres treated over the long term from your estimate. For example, using Final EIS page II-11, we estimate that alternative Modified D would treat no more than 40 percent of the Appalachian national forests with prescribed fire and herbicides over a long period of time. The important point, however, is how these methods are applied on the ground. Mitigations on Final EIS pages II-56-57 prohibit severe fires that would damage vegetation and soil, and on pages II-61-68 limit herbicides, application rates, and treatment methods to those that pose minimal risk to human health and the environment. In addition, alternative Modified D requires 90-100 percent of herbicide treatments in the general forest area to be selective (applied directly to individual target plants), not broadcast. These constraints mandate that our treatments will be light on the land; soil and forest productivity will be fully maintained (Final EIS pages IV-146-147).

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

STUDY seems very thorough, from the standpoint of "management." Not nearly enough scientific exploration of the benefits of wilderness areas for native flora, fauna as well as human benefits.

Why?

Much too much attention paid to short-term economic benefits for the "land of many uses."

Grassy, mtn program seems very well thought out and will educate all who are interested in careful forestry management.

Comments on Alternatives:

I (and many, many others) would very much like to see more emphasis laid to wilderness area acquisition and more funding for game and non-game ~~management~~ ^{species} management.

Also secondary and tertiary watershed management should be included to secure erosion programs, soil conservation by utilizing a much greater Why? green belt buffer on all timber operations.

Because the Draft Environmental Impact statements I and II do not include sportsmen, fishermen, hikers; economic contributions in the form of licenses, taxes and volunteer efforts as a ~~the~~ viable and important factors that they represent.

Other:

Much more wilderness acquisition, fisheries, air & water pollution programs are needed.

Why?

Future generations deserve our present attention.

Thanks, Cecil Taylor

(Use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

CECIL B. TAYLOR (VES, TV, others)

Name First MI Last (Organization)

RE 3, Box 277

Street

WHITE OAK, VA 24134

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 372

From: Cleed Taylor

Comment No.

Response

1

Thank you for your comment. You may wish to contact the Forest Service in your area because the issues of wilderness area acquisition and management and game management activities other than vegetation management are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: Your studies and analysis of all aspects of herbicide use is both exhaustive and informative, but for the very reasons the study was created, the use of herbicides in our desired "natural areas" should be very limited or better yet banned.

Why?

With titles of assertions like mutagenic potential, cancer potency, or herbicide toxicity, the potential for problems is evident. I would agree to, but not overstate, limited herbicide use only in heavily timbered (cedars, pines, etc.) sections, but not remote or

1 I would support Alternative A (no action) as a first choice or possibly Alternative E, with an emphasis on natural vegetation control.

Why?

exact details above

Other: we should strive to keep our natural areas as natural as possible.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

ALLEN R. WILSON
Name First M Last (Optional)
260 1TH AVE. DE ME
Street
HICKORY NC 28601
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 323

From: Allen R. Wilson

Comment No.

Response

- 1 The commenter's preference for alternative A or possibly E was included in the content analysis of all comments received. National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives C through H. Also please see response to comments in Letter No. 266 and Letter No. 281, Comment No. 7.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1, Letter No. 360, and Letter No. 348.

Tear at perforation

RESPONSE FORM

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However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: Your studies and analysis of all aspects of herbicide use is both exhaustive and informative, but for the very reason the study was enacted, the use of herbicides in our desired "natural areas" should be very limited or better yet banned.

Why?

With titles of assertions like mutagenic potential, cancer potency, or herbicide toxicity, the potential for problems is evident. I would agree to, but not encourage, limited herbicide use only in heavily wooded (spruce, pine, etc.) sections, but not dense or

Comments on Alternatives:

any area with dense water.

1

I would support Alternative A (no action) as a first choice or possibly Alternative E, with an emphasis on natural vegetation control.

Why?

CAUTION REMAINS ABOVE

WE SHOULD STRIVE TO KEEP OUR NATURAL AREAS AS NATURAL AS POSSIBLE.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

ALLEN R. WILSON

Name: First MI Last (Organization)

466 1TH AVE. DENVER

Street

HICKORY NC 28601

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 373

From: Allen R. Wilson

Comment No.

Response

1

The commenter's preference for alternative A or possibly E was included in the content analysis of all comments received. National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives C through H. Also please see response to comments in Letter No. 266 and Letter No. 281, Comment No. 7.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1, Letter No. 560, and Letter No. 348.

Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

We cannot continue to destroy our water, wildlife and fish by herbicides, soil erosion from burning and other problems.
Why? Where will we get this water and food from now it's already gone? The world is changing, enough now.

Comments on Alternatives:

It would like to see practically no herbicides or burning. On medical side, herbicides really scare you. I don't want to see anyone capable of doing this also scared about burning. Why? It not only destroys burning but also natural habitat, but it moves the wildlife out from their homes and into potentially dangerous areas. On the other hand, burning is a good thing if qualified personnel and it would have to be done. Other: think our whole forest should be destroyed, like Yellowstone almost was, when the fire got out of control. It would prefer our nature be protected by using manual and mechanical means. It would also give people work and need it. I love nature and it needs to be protected as much as possible.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

FRANCIE & JOEY HELL

Name: First MI Last (Organization)
P.O. Box 226
Street
WEBSTER N.C. 28784
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 374

From: Francie and Joey Hoell

Comment No.

Response

1

Your concerns about herbicide and fire use have been included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be mowed or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Appalachians. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-121 to IV-122).

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: *Do not agree*

1 Why? *Too much herbicide + prescribed burning in our forests*

Comments on Alternatives:

Somewhere between F & G

Why? *Our health, preserving forests, preserving our wild life and our environment*

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Debra Bohrer
 Name: First MI Last (Organization)
125 Watonga Road
 Street
Franklin, NC 28734
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 375

From: Gertrude Bohres

Comment No.

Response

- 1 Your concerns about herbicide and prescribed fire use have been included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Key mitigations to protect people and the environment require: (1) herbicides to be applied at low rates (a fraction of the label rate), as granules or large droplets in favorable weather to minimize drift; (2) special clothing and procedures to protect workers and the public; and (3) buffers to protect plants, animals, and water quality.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Appalachians. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-121 to IV-122).

← Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

WELL DONE BUT OVER DONE

Why?

No analysis - will stand the test - if extremist in the environmental or scientific community make the challenge.

Comments on Alternatives:

Do the Alternatives respond to my concerns? NO
(Alternative H comes closest)

Why?

They are too confining and too restrictive.
All alternatives for vegetative manipulation should be available for use.
Professionals need all the tools, if they are effective in managing the vegetation.

Other: Social Political Comment:

We need to spend our energy, resources, and time implementing programs, not justifying the need and how of implementation. Professional managers are educated and trained in the how to do. The Law of the land holds us responsible

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

THOMAS H. TASHA
Name: First MI Last (Organization)
15 MONTE VISTA RD
Street
DREWELE, MO 65006
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 326

From: Thomas Thrash

Comment No.

Response

- 1 Your preference for an alternative less restrictive than any proposed was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Excellent

Why?

Comments on Alternatives:

Excellent

Why?

1 Other: *Please re-evaluate typical amounts of hard pan II-58, section 5, too restrictive. Karst areas pan II-64 section 29, is too broad a term & could be interpreted to include entire districts. On II-66, section 1, 'CARA SAN OPERATORS' should state 'F.S. CARA SAN OPERATORS'.*

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Michael J. Davis *USFS*
 Name: First MI Last (Organization)
PO BOX 902
 Street
Landon, KY *40341*
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 377

From: Michael J. Davis

Comment No.

Response

- | Comment No. | Response |
|-------------|--|
| 1 | Typical rates are being reviewed for biological adequacy. Karst areas (page II-64 Draft EIS) and chain saw operators (page II-66 Draft EIS) have been edited as suggested. |

← Tear at perforation

DRAFT ENVIRONMENTAL IMPACT STATEMENT
VEGETATION MANAGEMENT IN THE APPALACHIAN MTS.
RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.
However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I believe that your vegetation management plan has been well researched. However, the part of the research where Scientific Analysis is inadequate is herbicide use.

- 1 Why? Complete information on the adverse effects of herbicides is missing. What affects about effects on woody wildlife eating recently sprayed plants, insects, and waterfalls?

Comments on Alternatives:

- 2 I believe that Alternative F is a better one than USFS's preferred alternative D.

Why? Alternative F uses no herbicides, increases wildlife food production, safeguards berry patches used by local residents. The hazard potential of alternative D is great because of drift effects from aerial spraying.

Other: and the unknown factors of herbicides
Suggest extensive research on biological vegetation controls.

- 3 Why? Biological vegetation controls are environmentally safe and will not accumulate the already declining population of wildlife (especially amphibians) in the Southeast.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Francine D. Nelson (Anniston Army Depo)

Name First MI Last (Organization)

PO Box 1056

Street

Bryum AL

36253

City

State

Zip Code

← Tear at perforation

Response to Comments in Letter No. 378

From: Francine D. Nelson

Comment No.

Response

1 We think these concerns were addressed in the Draft EIS. For effects of herbicides recently sprayed on edible plants see pages 4-20 through 4-23 in appendix A for humans and chapter 7 in appendix A for wildlife risk. This data is summarized as appropriate in chapter IV of the Draft EIS. Influence on the water table is discussed in section 4 of the Risk Assessment and this discussion is summarized with additional environmental documentation in pages IV-109 through IV-115. Also please see response to comments in Letter No. 522, Comment NO. 1.

2 Your preference for alternative F was included in the content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

3 At present there is no "environmentally safe" or widely-available and proven biological vegetation management technique for use in the Appalachian Mountain subregion. Available biological agents (cattle, goats, etc.) are evaluated in the EIS and are found to produce unacceptable effects at the intensity necessary to manage vegetation except where forage is available in areas such as mountaintop balds.

The other biological control methods listed on page II-41 of the Draft EIS must be proven to be safe and effective at an experimental level here in the South before being used operationally on a widespread basis. As we stated on page II-41, when any of these methods is determined to be successful at operational levels, it will be evaluated for use in the Region's vegetation management program. We consider it prudent to evaluate any new method at an experimental level prior to operational use. Many of the listed examples, such as microbial and viral agents, plant pathogens, and insects need to be thoroughly evaluated for safety and effectiveness prior to their introduction into the environment.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1 Roster of "Preparers" is excellent. The report of their studies is easily understood and comprehensive. Is the study perhaps incomplete? I did not find consideration of use of seeding as biological control, (NON TOXIC vigorous grasses on burn areas or rights-of-way or wildflower varieties along roadsides as used in Texas with spectacular aesthetic results). Did I miss study of acid rain?

Why?

Future studies of the total effect of combined man-produced chemicals may alter present assumption, particularly as to use of herbicides.

Aesthetic impact should make the general public favor preservation of forest areas for public benefit.

Comments on Alternatives:

2 Alternative D (Preferred) I find absolutely unacceptable due to the prescribed use of herbicides.

I prefer Alternative F, no herbicides.

Why?

3 The public, all the public, not just the growing number of those with unhealthy reaction to introduction of chemicals into the environment, have a right to protection from these intrusions, most particularly on the part of Federal agencies which should represent US and not the vested interests of chemical producers.

Precautions against misuse, drift and breakdown of protective buffers cannot be ~~guaranteed~~ assured. The message to private users is that if the government is doing it it is safe procedure for all. Careless use by the hired help endangers both the public and "endangered species" which we the public then become.

4 If, in truth, use of mechanical methods ~~have~~ ^{has} possible adverse effect on soils ~~and~~ aesthetics and accidental injuries to employees pose greater risk to workers than health impact from herbicides, as your study states, may I suggest that the fault lies in careless hiring and training practices for those who use the mechanical equipment. I would like to point out that the Forestry Service which uses volunteer crews in trail maintenance in the Pisgah Nat. Forest requires volunteers to complete a training regimen that includes proper use of mechanical equipment. (OVER)

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Elisabeth W. Craig

Name First MI Last (Organization)
17 Bishop Blvd. A. 102

Street

Molly Hill, Florida 32017

City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 379

From: Elizabeth M. Craig

Comment No.

Response

1 There is a discussion on the use of plants for biological control on page II-41 of the DEIS. It will certainly be considered if evaluations are positive. Wildflowers are suggested for use in mitigation number 23 on page II-51 of the Draft EIS. Measure number 22 (same page) requires revegetation of out-of-service roads. Acid rain is briefly discussed on Draft EIS page IV-127.

2 Your preference for alternative F was included in the content analysis of all comments received.

3 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. This conclusion is based on rigorous analyses in the EIS and Risk Assessment that consistently made conservative assumptions that deliberately overestimated potential adverse effects of herbicides.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

4 Extensive training and certification programs are conducted to protect employees from accidental injury. Unfortunately, when dealing with sling blades, brush hooks, chain saws, etc. accidents happen despite all the rigorous training we universally require. Potential ground water contamination is negligible (Final EIS section IV.G.1).

High insurance costs have brought about (properly) a cautious attitude. Perhaps attention should be directed to the possibility of future law suits from possible adverse effects of herbicides leaking into the aquifer. (Appalachian strata formation makes runoffs take unpredictable channels.)

5

Your own statement that "herbicides are subjected to considerable downstream mixing and dilution, risks to water from typical applications are very slight" is unacceptable.

I appear to be backing up your own statements on page X regarding control methods available. Perhaps mechanical methods should be confined to recreation areas and roadsides. Let nature do its own healing where economically feasible.

- 5 The statement is scientifically valid as confirmed by numerous field studies (appendix C). Even though the evidence is conclusive, we realize that some people may not accept it.

← Tear at perforation

RESPONSE FORM

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However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

- 1 **Comments on Scientific Analysis:** Generally the scientific analysis seems accurate and comprehensive. I do not intend to cast knowledge of the scientific community in a negative light. However, the data on herbicide effects on practice and especially on the long term effects of herbicides are often tentative and controversial.

Why?

- 2 **Comments on Alternatives:** On the face of it alternatives C to G have some merit and only H is totally impermissible, except to the hit-and-run mentality that has given the timber industry such a bad name. In the light of the many uncertainties in the field I am strongly tempted to prefer alternative A. However, all things considered, I vote for alternative B.

Why?

- 3 **Other:** I regret to say that I have had little opportunity to get first hand experience of results of past methods. On one hike to the Maxiatch I was troubled by the apparent poor results of whatever had been done. Also, I think that in your discussion of the use of herbicides (II-58) is much too optimistic. Human fallibility and equipment failure are barely mentioned but can be counted on to nullify the most rigorous guidelines, especially in the rough terrain prevailing in these mountains.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Elmer R. Ohle
Name: First MI Last (Organization)
4468 Highway 80 S
Street
Durham NC 28714
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 380

From: Elpenor Ohle

Comment No.

Response

- 1 The interdisciplinary team views its writing assignment as equal in importance to the analysis. Good communications is a top priority. While many reviewers commented that this very complex technical subject has been handled very well, some may still find it overly complex. The summaries on pages iii through xvi of the Draft EIS attempt to address this problem.
- 2 The commenter's preference for alternative B was included in the content analysis of all comments received. None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-58 to II-65 in the Draft EIS. As stated in mitigation measure number 1 on page II-44 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides. An additional mitigation measure that requires class B and C herbicides (table II-1) be used only after Regional Forester approval has been added in chapter II of the Final EIS.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
- 3 The risks of human fallibility are addressed by training and supervision requirements, mitigation numbers 11 and 12, page II-61. Risks of accidents are further minimized by number 19 on page II-63 requiring only amount of herbicide needed for one day be transported to the field.

RESPONSE FORM

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However you decide to respond, please help us by making specific and meaningful comments.

Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

- 1 Why? The amount of work that has gone into this study must have been enormous, and it deserves praise. The cost of printing the 2 volumes of the DEIS surely were enormous and - right there - demanded the cutting of several acres of trees. One word is about the whole thing, but the answers are just more questions. The report was repetitive, I thought... but that seems to be the way it has to be.

Comments on Alternatives:

- 2 Why? If choosing among the alternatives you outline in the DEIS, "B" seems the best choice. On a large scale, and under such conditions as uncertain, uncertain weather, unusual population, etc. - accidents will occur. We need to move away from dependence on pesticides and their accumulation in our forests and linkages.
- 3 Why? Other: As a future goal, I think it would be wonderful to move toward "burying" power lines - the expense and challenge would be great at first, no doubt, but the long-term maintenance should be less.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address ☐ and drop in the mail ☐ postage necessary.)

Elizabeth E. Chis
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 4466 Highway 8-5
 Street
 Greenville NC 28714
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 381

From: Elisabeth E. Ohle

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful.
- 2 The commenter's preference for alternative B was included in the content analysis of all comments received. Also see response to comments in Letter No. 261, Comment No. 2.

None of the evaluated herbicides appear to pose significant, long-term risk when used properly and with mitigation measures outlined on pages II-58 to II-65 in the Draft EIS. As stated in mitigation measure number 1 on page II-44 of the Draft EIS, vegetation management projects will have site-specific analysis that will examine and evaluate a reasonable range of alternative methods, including the use of methods which do not involve herbicides. An additional mitigation measure that requires class B and C herbicides (table II-1) be used only after Regional Forester approval has been added in chapter II of the Final EIS.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
- 3 The issue of burying powerlines is outside the scope of this EIS, but is frequently done where feasible on national forest lands.

February 5, 1989
Celo, N. C.

Dear Sis;

I am responding to your Vegetation Management Survey. First, thank-you for compiling the information.

1 I feel that PLAN B would be the most positive of the plans presented, mainly because I feel that the vegetation of our mountains is stressed by our ever degrading atmosphere as it is, and I hate to see us controlling vegetation by adding any more chemical detriment's to the ecology of the area.

I would like to receive any further information on this subject, and appreciate your keeping us informed on these matters. Thank-you,

Barry Gray and Richard Kennedy

Response to Comments in Letter No. 382

From: Becky Gray and Richard Kennedy

Comment No.

Response

- 1 Your preference for alternative B was included in the content analysis of all comments received. Also see response to comments in Letter No. 261, Comment No. 2.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, 381, and 560.

Dear, USDA Forest Service

- 1 I do not understand how the vegetation management plan
can be separated from the forest plans. Harvest methods determine
the degree of vegetation management that is needed. The 130,323
acres recommended in the preferred alternative is too much. Looks
like the Forest Service is planning for more even age or tree farm
management to need so much vegetation control. This management
philosophy is not what multiple use intended. I do not agree with
2 the use of herbicides in vegetation control under any circumstance.
Herbicides are known to destroy nutrients and microorganisms in the
soil. Herbicides find their way into animals of these forests.
There are too many unanswered questions to risk the health of the
forest, and the people who use and work in them to justify the use
of herbicides. I agree that some vegetation management is needed
on roadsides, recreation areas, trails, and utility corridors. This
can be accomplished with means other than herbicides. If local
economics is a concern local labor and manual methods can be utilized.
3 When mechanical methods have to be used, tractors with rubber tires
should be chosen over crawler tractors. Too much soil disturbance
and compaction occur with crawler tractors. Manual methods cause
less disturbance and create an opportunity to involve more labor
from local towns. The research needs listed in the EIS IV-150 Volume 1
4 prove there are many questions about the vegetation controls you
have chosen. Vegetation management is a serious threat to the diversity
of our forests. Why doesn't the Forest Service use multiple use
as they claim to? If the Forest Service used multiple use principles
most of this vegetation control would be unnecessary. I'm not sure
our forests have a future if this even age, tree farm management
continues. Do we have time to turn back? What's going to happen to
all those even aged forest down the road when the soil is poisoned
by herbicides, and washed away by overuse? I think it's time the
Forest Service considered something other than money. I hate to be
negative, but I look around and it's hard to be optimistic. I'm
beginning to think the dollar will forever rule over wisdom.

Sincerely,

Jon H. Carter

Jon H. Carter
1480 Ebenezer Rd.
Conyers, GA 30207

Dear Sir,

I just wanted to write and correct an error I made in a
letter to you last week. I stated one of the founders of the
forest service as Aldo Leopold instead of Gifford Pinchot. I
had my mind on something Aldo once said " Like winds and sunsets
wild things were taken for granted until progress began to do
away with them. Now we face the question whether a still higher
standard of living is worth its cost in things natural, wild, and
free." Thats sure food for thought ain't it.

Sincerely,

Jon H. Carter

Jon H. Carter
1480 Ebenezer Rd.
Conyers Ga 30207

Response to Comments in Letter No. 383

From: Jon H. Carter

Comment No.

Response

- 1 Forest Land and Resource Management Plans call for many vegetation management activities. This EIS discloses environmental effects of those activities. Decisions based on this EIS are implemented in concert with Forest Land and Resource Management Plans. Plans set overall direction for managing national forests. The selected alternative from this EIS sets further direction on how vegetation is managed. Depending on which alternative is selected, plans may need to be amended, especially regarding methods and tools allowed and mitigation measures (standards and guides) applied. Amendments to plans will be done through the Record of Decision for this EIS.

Site-specific vegetation management projects are done within constraints set by the plans and this EIS. Together, these two documents define the limits within which such projects may operate. See also discussions in sections B, C, and D on pages I-1 through I-4 of the Draft EIS.

The 130,323 acres recommended in the preferred alternative was developed by adding together the acres projected to be done annually in the Forest Land and Resource Management Plans of the Appalachian Mountain forests (listed on page II-1 of the Draft EIS) for the vegetation management activities that this EIS analyzes. See page I-2 of the Draft EIS for the list of activities that are covered.

- 2 The consensus among scientists that have studied the topic is that use of herbicides at our low rates (mitigation measure number 5, page II-58 Draft EIS) does not yield high enough concentrations to negatively affect soil microflora (appendix C, page C-10). The evaluated herbicides are not general biocides but are formulated specifically to affect the more complex metabolic processes of higher plants which are generally absent in microflora. Data presented on page II-97 (Draft EIS) further suggests that soil nutrients are neither destroyed nor lost in a significant amount when herbicides are used. Chapters 6-8 of the Risk Assessment (appendix A) indicate low risk to animal populations and chapter II includes mitigation measures which further reduce even that risk.
- 3 See response to comments in Letter No. 57, Comment No. 3.
- 4 National forests are mandated to produce a variety of goods and services (multiple-use forestry). In order to fulfill this mandate, some manipulation of natural processes is necessary. Additional information has been included in chapter I of the Final EIS which addresses the need for vegetation management. While there is significant unavailable data from field studies, analogy and modeling were used for analytic purposes and they indicate no permanent effects on diversity on a site-specific basis. The cumulative effects postulated by the commenter (poisoned soil, eroded sites, etc.) are not realistic projections of data presented in this EIS.

DRAFT ENVIRONMENTAL IMPACT STATEMENT
VEGETATION MANAGEMENT IN THE APPALACHIAN MTS.
RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: Your scientific analysis is very thorough and adequately addresses my concerns. However, after looking over your study, I am convinced that your preferred Alternative D is not my preferred alternative. I strongly opposed the use of herbicides on our National Forest. Having worked for a small landscape maintenance company I have experience using herbicides. My decision to terminate my employment with the company was partially based on my objection to the use of such chemicals.

Comments on Alternatives: Treatment of 34,300 acres of Nat Forest land is very disturbing. Not only are the herbicides themselves a concern; I disapprove of smearing Diesel fuel, kerosene and limonene throughout our forest. The use of these mixtures along trails, Recreation Steep, and Roads (G/State/FS) are of added concern with their presence in areas highly used by visitors to the forest. Furthermore, wildlife throughout the forest will be negatively exposed to these contaminants as well as other areas which have been treated with herbicides.

Other: In your report the discussions on effect of herbicides on surface water, aquatic animals and groundwater, as well as such as N₂, minimal, negligible, etc are used. These kinds fail to be reassuring as intended. The bottom line is that these chemicals are all toxic and destructive. Their half-life, mobility, persistence, etc may be calculated to a degree but we cannot adequately predict what long-term effects we can expect from these chemicals. Past experience with such high risk materials suggest we should not rely upon these connections. (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Christopher E. Nixes
Name First MI Last (Organization)
309 N. Dumas St.
Street
JACKSONVILLE AL 36265
City State Zip Code

Response to Comments in Letter No. 384

From: Christopher F. Nixon

Comment No.

Response

1 Your opposition to alternative D and the use of diesel oil and kerosene were included in the content analysis of all comments received. Please see comparison of alternatives (Draft EIS pages II-67-83) and summary of impacts of alternatives (Draft EIS pages IV-130-150). We are also currently evaluating mineral oil to determine if it can be used with fewer adverse effects.

2 Toxic effects on wildlife, as well as effects on wildlife habitat, are discussed in sections IV-D and IV-E of the Draft EIS. The Risk Assessment (appendix A) and the body of scientific literature suggest that risk of toxic effects are very low. As with any manipulation of habitat, herbicides alter habitat in ways that benefit some species and adversely affect others. Scientific evidence presented in the risk assessment and the EIS supports the position that herbicides can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-58-65 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

3 "Minimal," "negligible," etc. are used to qualitatively describe a small amount. They are descriptors of information.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Page 2

4

My Preferred Alternative is F. Not only are the threats with herbicides eliminated, but available jobs will be increased. If I understand correctly, Alternative F would provide both of these advantages at a slightly lower projected annual cost than Alternative D. I do realize the first issue is concerned about an increase in serious injuries from the increased use of manual equipment and an increase in the number of employees using such equipment. However, there is no validity in assuming the injuries from manual equipment are being greater than the serious injuries inflicted upon the FS employees and the public by the use of herbicides.

None of the other alternatives have an advantage over alternative F in my humble opinion. My only question with alternative F is the increase of mechanical and biological [fire-posting] control methods in the bald areas could this damage not be better managed by fire?

Thank you for the opportunity to make comments.

Philo Turner

- 4 Your preference for alternative F was included in the content analysis of all comments received. Please see response to comments in Letter No. 522, Comment No. 1. We have identified the data gaps and a response is included in response to comments in Letter No. 480, Comment No. 3.

With the stringent mitigation measures required and using class A herbicides (table II-1) at reduced rates, we think there is validity to compare with known effects of manual treatments. We know that we have had 3 fatalities to our workers in the past 10 years from chainsaw accidents.

← Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

Why?

1

Comments on Alternatives:

Why?

2

Other:

Why?

I am wondering if the drought conditions, and wild ~~spread~~ fires of last year are being taken into consideration when using prescribed fire.

I would say that the plan I would prefer is "A" with a possibility of "B" or "F" but not "D"

Hervey M. Corlies

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

TERRY K. MCCOY
 Name First MI Last (Organization)
 4321-5TH AVE SE
 Street
 BHAM AL 35208
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 385

From: Terry K. McCombs

Comment No.

Response

- 1 Drought conditions and observed fire behavior are two of the many factors considered when preparing site-specific analyses during project planning. See requirement (1) on page II-52 of the Draft EIS.

Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be mowed or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Appalachians. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-121 to IV-122).

- 2 Your preference for alternative A, B, or F was included in the content analysis of all comments received. Please see response to comments in Letter No. 266; Letter No. 261, Comment No. 2; and Letter No. 522, Comment No. 2.

Tear at perforation

RESPONSE FORM

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However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: Thank you for the book -
 I think the Forest Service has done a
 wonderful job in the research work they have done
 on the environmental impact. I have been interested
 Why? in the reading the book and trying to learn I can
 hope it will help when talking to other people.

Comments on Alternatives:
 I do not feel that I am qualified to be
 a speaker on the alternatives - I will go along with
 the Forest Service suggestion. I am not
 an expert on the subject and I am not
 an expert on the subject and I am not
 Why? an expert on the subject and I am not

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Godana G. Thorne (Mrs. W. F.)

Name First MI Last (Organization)

704 Guilman Dawson Ave

Street

Greenville, NC 2

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 386

From: Barbara A. Thorne

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful.
- 2 Your concern about herbicide use or mechanical method has been included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

For mechanical method only low to moderate disturbance tools are permitted (page II-8 of the Draft EIS). Mitigation measures on pages II-56 and II-57 are required to reduce soil damage and subsequent sedimentation.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I think you have done a marvelous job!
Your analysis on the effects of vegetation management methods on humans,
animals and the environment is quite extensive and in my opinion very scientific
and accurate! You gave us all the tools needed to respond in a scientific and
comprehensive manner!

Why? Your study and to describe the effects chemicals have on the environment.
Such as 2,4-D; Dicamba, Tebuthizon etc. ~~etc.~~ extremely helpful. Your report
on soil physics and soil structure was very educational and informative. Your list
and habitat each one found in or endangering and sensitive animal and plant species is
excellent information useful in deciding upon alternatives.

Comments on Alternatives: Alt. C & D were my two favorites. I am going to
recommend Alt. E be considered very seriously. Alt. C & D are less desirable than
E because of the very high intensity of fire methods used, and less biological methods.
Alt. E is my choice! Alt. A, H are too extreme in opposite directions.

Why? Alt. D is your preferred. I want to recommend E because it places less
emphasis on herbicides which I feel that all are harmful although some worse than others.
I like the increase use of manual and biological methods. I am heavily in favor of bird
habitat grazing. I am critically concerned with prescribed fire uses that allow heavy silt
infiltration into streams and rivers from rain water runoff. I am also concerned with
heavy disturbance mounds and mechanical methods but I feel that it is a more
desirable alternative than herbicides and fire. I would prefer low disturbance mechanical
methods be used even in my preferred Alt. E!

I am honored to have been asked to participate in this important study
and hope that you have my name on your list of participants of Future Scientific
studies, fills or opinions! Please send me the final results of this NIS and your
conclusions! Please feel free to contact me if I could be of further assistance!

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and
drop in the mail (no postage necessary).

Rodney A. Dixon
Name: First MI Last (Organization)
406 Moffitt Dr.
Street
High Point NC 27260
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 387

From: Rodney A. Dixon

Comment No.

Response

- 1 Your preference for alternative E was included in the content analysis of all comments received. Please see response to comments in Letter No. 281, Comment No. 7.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Your concerns about prescribed fire and herbicide use have been included in the content analysis of all comments received. The preferred alternative has eliminated the use of severe burns which are principally responsible for siltation. Burns of low to moderate intensities produce negligible effects. Additionally, there are a number of mitigation measures and management requirements in chapter II, part E which further reduce possible effects on the water resource.

Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

For balds biological methods (grazing) is one of the important tools. See alternative Modified D in chapter II of the Final EIS for a breakdown of each activity. In the Final EIS we have also expanded chapter I to describe tool uses with each activity. Also see response to comments in Letter No. 348 and 560.

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be mowed or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Appalachians. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-121 to IV-122).

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

My husband and I shared this with my parents who also have an interest in the area. We believe you have made the best choice (Alternative D). My father is concerned that prescribed fire is hard on wild life and my mother that herbicides will get into the water supply. However, it appears you prefer a method that is likely to be most effective, safe & economical.

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Dabney H. & Mary O. Cowger

Name First MI Last (Organization)
635 Pohite Drive

Street
Mechanicville, VA 23111

City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 388

From: Dabney H. & Mary O. Cowger

Comment No.

Response

1

Your preference for alternative D was included in the content analysis of all comments received. Any of the methods, including prescribed fire, when used properly can provide substantial benefits to all forms of wildlife. In fact, nearly one-fifth of the projected vegetation management treatments are prescribed to directly benefit wildlife habitat or, more specifically, threatened or endangered species.

Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be mowed or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Appalachians. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-121 to IV-122).

We also carefully studied the potential for herbicides to enter drinking water supplies. Many of the details of that study are reported in appendix C and chapter IV, part G.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Tear at perforation

DRAFT ENVIRONMENTAL IMPACT STATEMENT
VEGETATION MANAGEMENT IN THE APPALACHIAN MTS.
RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: *I commend you on your scientific analysis, it is easily understood and appears adequate.*

Why?

Comments on Alternatives: *I'm sending this response due to my concern over the proposed use of herbicides in vegetation management and the use of cattle to maintain balds in the Appalachian region. I do support the use of your other proposed alternatives including prescribed fire, mechanical methods and manual methods.*

Why? I strongly oppose the use of herbicides in eastern vegetation because of the potential and historical damage to animals and nontarget plants. Cattle often in the past and nation, increasingly making a job easier and in the case of "progress", has done more damage to the environment and future economy than alternative proposals would have done. Other: Any further endangerment, or little potential endangerment, to our threatened and endangered plants and animals is unacceptable in my opinion. The potential endangerment of our land by the insect herbicides in the herbicide is a true case of present and future objection to the use of herbicides in clearing balds to remove the damage they can inflict on various organisms. I stand in favor of your other alternatives mentioned above and feel that their present adverse effects on wildlife, air and appearance are far less dangerous for the present and the future. Each of these other alternatives would also increase job availability, and our overall economy over a fairly to a small degree and each require more cost effective than herbicides. All considered, I am in support of the EIS.

(Use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Address: *Shelby County, Tennessee*

Name: *Shelby* First *Starn* MI *Arline* Last (Organization) *Shelby and Arline Starn*
Street *367 Lombard St.*
City *Tomball, AL* State *AL* Zip Code *35166*

Tear at perforation

Response to Comments in Letter No. 389

From: Bobby Steven Martin

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the analysis well done and useful.
- 2 Your preference for alternative F has been included in the content analysis of all comments received. Please see response to comments in Letter No. 522, Comment No. 1.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

In the Final EIS we have further restricted selectivity and protection of non-target plants and animals by allowing broadcast techniques only on ROW's and only 10% of the time for pine site preparation and timber stand improvement activities.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Livestock are not proposed to be used to clear balds, rather be used with other tools to help maintain the grass ecosystems on only large grassy balds. Grazing has been an historical part of bald ecosystems by elk, bison, and livestock of early settlers. To assure protection of these fragile ecosystems, mitigation measures requiring specific management plans and other requirements are listed in chapter II of the Final EIS.

Your concern about grazing balds is noted. Grazing is limited to only two of the many balds, but historically played a role in effects to vegetation ranging from periods when occupied by bison and elk to early settlers. Mitigation measures on page II-65 in the Draft EIS are required in order to protect the bald ecosystem.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Appalachians. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-121 to IV-122).

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

It seems to me that application of intensive spraying with herbicides would reduce the air & water on plants, water, & trees and would kill plant & animal life for a prolonged period of time after it has been applied - you can't pick your targets and all would be harmed.

Comments on Alternatives:

1. Burning for controlling plant and animal life would displace some species & kill others.

Why?

There would be only survival of the fittest of both plant & animal life.

Other:

Burning over a large area would pollute the air and make it unsuitable for use. The non-~~the~~ streamers ~~would~~ would feel the heat of fire & and ~~would~~ cause the most erosion of precious top-soil. I believe in multiple use of the National Forests.

Why?

Streamers ~~would~~ would feel the heat of fire & and ~~would~~ cause the most erosion of precious top-soil. I believe in multiple use of the National Forests.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

ETHEL M. WATKINS
Name First MI Last (Organization)
366- Allison, Watts Road
Street
FARMINGTON, N.C. 28734
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 390

From: Ethel M. Waldroop

Comment No.

Response

- 1 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. Also see Letter Nos. 1, 348, and 560.

Please see pages IV-55 (first paragraph), page IV-32 (last paragraph), and page IV-76 (4th and 5th paragraphs) in the Draft EIS which identify the problems and the mitigations required on pages II-44 through II-66.

Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

Only severe burns could approximate the kinds of effects you suggest, see appendix B. The preferred alternative eliminates these kinds of burns and uses only low and moderate intensity ones. This factor, plus mitigation measures, minimizes potential effects from fire on soil and water.

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be mowed or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

- 1 **VERY COMPREHENSIVE AND MEANINGFUL ANALYSIS. ALSO WELL PREPARED FOR EASE & UNDERSTANDING ON READING. PARTICULARLY WAS IMPRESSED WITH APPENDICES.**

Why?
MOST PROBABLY DUE TO EXPERIENCE AND EDUCATIONAL BACKGROUND OF PREPARERS, AND CAPABLE EDITING.

Comments on Alternatives:

- 2 **I AGREE WITH ALTERNATIVE "D" AS PREFERRED. PARTICULAR EMPHASIS SHOULD BE DIRECTED TO CONTROL OF PINE BEETLES.**

Why?
ALTERNATIVE "D" PROVIDES A "MIDDLE OF THE ROAD" APPROACH - PROVIDING CONSERVATION WHICH IS NOT OVERBOARD, AND HARVESTING, WHICH IS NOT SEVERE. AS YOU KNOW - THE SEVERE OTHER DROUGHT HAS WEAKENED THE PINES, LEAVING THEM WIDE OPEN FOR EXTENSIVE PINE BEETLE ATTACK.

Why? RESEARCH PROGRAMS SHOULD BE INTENSIFIED TO FIND A SURE HERBICIDE FOR PINE BEETLES. THE ANSWER OF WHY IS SELF-EVIDENT.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

E. G. NOVOTNY

Name First MI Last (Organization)

310 MARYLAND AVE

Street

SIGNAL MTN, TN 37377

City State Zip Code

Tear at perforation

Response to Comments in Letter No. 391

From: E. G. Novotny

Comment No.

Response

- 1 The interdisciplinary team is pleased that you found the overall analysis well done and useful.
- 2 Your preference for alternative D was included in the content analysis of all comments received, though evaluation of pine beetles is beyond the scope of this analysis.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

February 10, 1989

USDA Forest Service
1720 Peachtree Road, NW
Atlanta, Georgia 30367

Gentlemen,

My response to the use of herbicides in our Southern Region is simple: LET US NOT DO IT!

My concept of the U.S. Forest Service has always been that it is the steward of the forest: the governmental department directly responsible to the people's wishes regarding the use of their land. We all own this land, and we all care what happens to it.

1 Please, no more herbicides and no more toxic materials to threaten the health of the land and its' people. A study of your own research (pages IV 3-15 of the DEIS) reveals that herbicides can adversely affect the health of humans, producing cancer, mutations, etc. You admit there are "Data Gaps". Now, then can you justify the use of such chemicals?

2 Herbicides and other toxic chemicals would not be necessary at all for regeneration of the forests if selective cutting and shelterwood methods were used instead of clearcutting. AND- shouldn't we make use of more manual procedures to control vegetation? Let's put more people to work. Establish labor groups similar to the Civilian Conservation Corps and let's all work together to make our forests healthy and productive. The U.S. Forest Service should not only manage timber harvest but also provide for more recreational areas to serve the needs of our ever-expanding population. The monumental budget necessary to finance the use of herbicides would be better spent on the construction of trails, campgrounds, picnic areas and historical sites.

3 Let us not patronize the chemical companies. Please, do not use herbicides and thereby become another purveyor of pollution! Do not abuse the public trust!

Respectfully yours,

Dorothy H. Symonds, WNC Alliance
Dorothy H. Symonds

cc: Senator Jesse Helms
Senator Terry Sanford
Congressman James M. Clarke
Bjorn Dahl
Walton R. Smith

Response to Comments in Letter No. 392

From: Dorothy H. Symonds

Comment No.

Response

1 Our modeling does not support commenter's conclusion. Data gaps are common to almost every scientific analysis. The Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, prescribe a process for dealing with them (including Risk Assessment to approximate missing data) which we have carefully followed.

2 Each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. As stated on pages I-2 and I-7 of the Draft EIS, the issue of silvicultural systems is outside the scope of this EIS. However, regardless of the mix of silvicultural systems used on the Appalachian Mountain forests, vegetation management will still be needed for the purposes listed in the Draft EIS on page I-2.

Additionally, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative, regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans. It is incorrect to assume that under the uneven-aged silvicultural systems that less vegetation management (including intensive vegetation management or the use of herbicides) would occur than under the even-aged silvicultural system. For either the even-aged or uneven-aged silvicultural system, site-specific analysis will determine appropriate methods and tools, intensity and selectivity of application, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. For example, vegetation management projects, with the objective of establishing the regeneration of a new age class, are designed to reduce plant competition, so that pine and/or hardwood seedlings receive needed amounts of sunlight, water, nutrients, and growing space in order to survive and grow, in both even-aged and uneven-aged systems. The use of herbicides is appropriate to both systems.

With respect to the increasing manual labor force, please see response to comments in Letter No. 57, Comment No. 3.

3 Formation of a new CCC would certainly provide more opportunities for employment and recreational facilities but is outside the scope of this EIS.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

PLEASE REFER TO ATTACHED LETTER.

Why?

4

Comments on Alternatives: ALTERNATIVE F IS THE NEAREST TREATMENT TO WHAT I WOULD RECOMMEND WITH SOME CHANGES IN THE PERCENTILES SUCH AS:

8.9%-FIRE, 0%-HERBICIDES, 46.6%-MANUAL, 41.8%-MECHANICAL, AND 1.7%-COWS, ETC.

Why? I RECOMMEND LESS FIRE BECAUSE BURNING:

-IS OFTEN HAZARDOUS TO PEOPLE, ANIMALS, BIRDS AND REAL ESTATE.

5

-HAS A KILLING EFFECT ON THE REGENERATION OF PLANT LIFE WHEN IT IS VERY HOT.

-IS A CONTRIBUTING FACTOR TO AIR POLLUTION AND THE ESCALATING "GREENHOUSE EFFECT".

Other:

ON THE USE OF HERBICIDES: SEE ATTACHED LETTER

ON THE USE OF MANUAL: SEE ATTACHED LETTER

ON THE USE OF MECHANICAL: I UNDERSTAND THE NEED OF SUCH PRACTICE.

Why?

ON THE USE OF COWS, ETC.: A REASONABLE AND EXPANDING EFFORT IN OUR MOUNTAINS.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

DOROTHY M. SIMMONS WNC ALLIANCE

Name: First MI Last (Organization)

P.O. BOX 939

Street

FRANKLIN, NC 28734

City

State

Zip Code

← Tear at perforation

- 4 Your preference for alternative F with slight modifications was included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

- 5 A site-specific burning plan is required for each prescribed fire (Draft EIS pages II-52 and II-53). Each such plan sets constraints on weather and fuel conditions and for resource coordination so that the prescribed fire will be safe and effective (Draft EIS page IV-123) and pose the least possible risk to the environment. Given such planning, and the fact that the preferred alternative does not allow severe, high-intensity prescribed fires (Draft EIS pages II-8 and II-53 to II-56), mortality of wildlife and plant regrowth is minimal (Draft EIS pages IV-38 to IV-40 and IV-76).

Each prescribed fire has temporary effects on local and general air quality that can be controlled by smoke management practices as to the timing and nature of each burn (Draft EIS pages II-55 and IV-118 to 121). Prescribed fires on national forests account for less than 2 percent of the total forest fire smoke produced in the Appalachians, so their contributions to regional air pollution and the "greenhouse effect" are negligible (Draft EIS pages IV-121 to IV-122).

Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be mowed or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Appalachians. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-121 to IV-122).

USDA - FORESTRY SERVICE
SOUTHERN REGION
1720 PEACHTREE RD., N.W.
ATLANTA, GA 30367

Mr. John Alcock and "Team",

I would like to take this opportunity to thank you for a very enlightening and educational reading. I am a novice at this but would like to participate. I have a great desire to learn and grow in regards to keeping OUR environment habitable. As most environmentalists began, I too, had my reality harshly shaken. Due to a negligent aerial application of ultrahazardous chemicals, my family, friends, pets, properties and wildlife were acutely poisoned. Now that I have become "active", I am greatly disappointed at the involvement of politics and lack of pertinent TRUTHS. The final picture is one of distortion and deception. Be that as it may, I have some very specific comments I would like to bring to the forestry's attention. This information is of significant impact and may alter the presentation of the final EIS. It's probably in your favor that this is not region 6 and that I did not directly obtain abatement from NCAP, NCAMP, and a few other groups that made mincemeat out of a very well presented FEIS.

- 1 The California Department of Food and Agriculture (CDFA) implementation of CA SB 950 has revealed widespread data gaps for most pesticides and by 1988, CAFA had identified 100+ pesticides posing potential chronic health hazards. (CA Senate Office of Research, 1988.) As of March, 1986, USEPA has not completely reached a final reassessment of any pesticide active ingredient let alone the full formulations, synergism, adjuvants, and inerts. This lack of data makes any risk assessment a good guess, at best. Potential now exists for multiple exposures and build up due to their widespread use (US General Accounting Office, -86-97, p.24). A report done by the Los Angeles County Cancer Surveillance Program shows increased incidence of childhood leukemia where pesticides had been used in the home (Lowengart et al., 1987). A report done in 1988 by Savage et al., shows exposure to organophosphate insecticides can culminate in permanent brain function alterations. Roughly, 1.5 BILLION pounds of pesticides active ingredient were used for non-agriculture purposes in 1984 (GAO/RCED-86-97, p.9).

- 2 Another major flaw in this draft statement is the lack of solid evaluation of the environmental impacts associated with surfactants, also known as carriers, spreaders, or adjuvants. They have been used for decades with little regard to the environment. I cite your own lack of data for Limonene. Discharge of surfactants has been shown to damage mature Norfolk Island Pine stands by reducing their resistance to sea salts (Moodie et al., 1986). It is likely the surfactant exposure will also reduce resistance of conifers to other forms of environmental stress (i.e. fungal, viral). POEA, the primary surfactant in Roundup has been shown to be a primary toxic

Response to Comments in Letter No. 393

From: Bernadine Aziz

Comment No.

Response

- 1 In this document we have complied with the Council on Environmental Quality regulations on incomplete and unavailable information (1502.22). There have been recent changes about how to evaluate incomplete or unavailable data. The Council on Environmental Quality issued regulations in November 1978 (40 CFR 1502.22) which required that a worst case analysis be performed to estimate risk of relevant missing information. In 1986, they modified this provision to require analysis of "... reasonably foreseeable significant adverse effects to the human environment ..." (40 CFR 1502.22). Recognizing that there are significant incomplete or unavailable data related to herbicide use, we have prepared a risk assessment (appendix A) using the 1986 requirements. In the risk assessment, we evaluate maximum (or extreme) and accident scenarios which are similar to the worst case analyses required under the earlier regulations. Thus, we have attempted to address both sets of regulations in our analysis.

Use of risk assessments is scientifically accepted, and ours has undergone extensive scientific review (Draft EIS, page VI-2). Modeling is used in the Risk Assessment to project incomplete or unavailable data. While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, we have actually magnified the estimate of risk far beyond what is probable in the field. Where meaningful comparisons could be made between available data, quantitative analysis was done. Where necessary, analogy was used to develop these estimates. Otherwise, qualitative estimates were made. The Risk Assessment looks at a range of scenarios, from highly probable (typical) to unlikely (maximum) to very unlikely (accidents). Sufficient information exists concerning herbicide applications to make reasonable estimates of potential exposures under each alternative. The effects of those exposures are evaluated based on what is known about the toxicity of each herbicide from previous accidental and controlled human exposures and from laboratory animal studies. This risk assessment method is widely accepted in the scientific community. The Risk Assessment is supported by background herbicide profiles including those found in USDA Forest Service Handbook 644. Where information was found to be insufficient to evaluate what effects might occur, conservative assumptions were made. For example, 2,4-D was assumed to present a cancer risk although EPA considers the available data to be insufficient to draw this conclusion. Acute toxicity testing on the full formulations is part of the available data on each herbicide. The chronic toxicity of the inert ingredients in each formulation is evaluated for those inert ingredients considered by EPA to pose a risk of health effects (Lists 1 or 2).

component in formulation, both to fish and humans (Volmar et al., 1979; Sawada et al., 1988). This surfactant is 400 times more toxic than RodeoR formulation which contains 40% glyphosate and no surfactant (LC50 > 1,000 mg/l; Monsanto, 1985).

3 The degradation products of glyphosate have been significantly neglected, as well. There is evidence that AMPA, the primary metabolite of glyphosate, accounts for as much as 28% of total residue (USEPA, 1986). AMPA is further converted to FORMALDEHYDE via formylphosphonic acid (Lund-Mole and Friestad, 1986; Rueppel et al., 1977). Formaldehyde has also been noted in laboratory studies when glycine 2 has passed over ferrous oxide (Roundup book, NCAAP). The mobility of Roundup surfactant POEA and formaldehyde breakdown product of glyphosate in surface water runoff has not been studied. Consequently, these compounds have a much greater potential for contaminating water and pose a significantly greater risk to wildlife and human health. Formaldehyde is thought to be a human carcinogen. There is no data available on mutagenicity of Roundup, Vision, and Accord formulations. There is no data available on immunotoxicity of glyphosate, Roundup, Vision, or Accord. Neurotoxicity data is not available on Roundup, Vision, or Accord. Any prior tests were ruled invalid because of IBT's scandalous practices. The CA Dept. of Food and Agriculture as well as OSHA have reported glyphosate to rank THIRD in number of reported illnesses (USEPA, 1987). Sawada et al., 1988 reported 56 cases of Roundup poisonings in Japan between 1984 and 1986. Glyphosate may effect endangered species as set forth on released jeopardy opinions (USEPA, 1986).

4 Limonene is not just an adjuvant. There are two specific products on the market at present with no data available except for the word of the manufacturer. D-Limonene is a citrus by-product but not explained in any length. Does this D-Limonene have organic citrus or heavily sprayed, possibly rejected fruit (due to pesticide residue) in it's creation? D-Limonene is also known as Cide-Kick 2 (JBL is the manufacturer) and is supposed to be a pine by-product. Acetone turpentine, naphtha, lacquer and varnish are also pine by-products. I am very curious to know exactly what by-products and have the pines used been sprayed with herbicide, insecticide, fungicide or any other adjuvants before being turned into Cide-Kick 2? I feel this is a reasonable question. There is considerable warning on the labels for both formulas. There is such a total lack of significant data with regards to these products I feel they should not be used till such time as tests are conducted. You yourself cite Limonene (which version?) as a very powerful and dangerous insecticide. You cite it as being ok'd for flea and tick dip. Yet, on the other hand, you make many references to it's general safety claiming it is a common additive in food. I find this sickening. How could an insecticide that is so toxic and kills by "somehow affecting the nervous system" be even considered a food additive?? I believe that these "carriers" are being masqueraded with the real intent being an insecticide application. The metabolites of these JBL products have not even been considered. Would you slap it on your bagel??

- 2 The Risk Assessment uses methodology accepted by the scientific community, making use of appropriate toxicity and exposure information for the herbicides under review and the methods used in their application. In order to compensate for the uncertainty inherent in any quantitative estimate of risk from pesticides, conservative assumptions were made whenever data was inadequate or missing, so that any errors would be made on the side of the safety. In many cases, the estimated risks are likely to be higher than the actual ones for this reason. The "pesticides" and "organophosphate insecticides" discussed in this comment are beyond the scope of this EIS. Data about their properties does not apply to the herbicides evaluated.
- 3 At the request of the Forest Service, EPA reviewed the inert ingredients contained in the pesticide formulation proposed for use in this program. The only inert ingredient contained in the formulations proposed for use that is on EPA's List 1 or 2 (inerts of concern or of high priority for testing) is kerosene, which is analyzed in the Risk Assessment in the category of light fuel oil.
- 4 The potential toxicity of the metabolites of glyphosate has been accounted for in all toxicity tests conducted, since these compounds would have contributed to the adverse effects observed in laboratory animals at the doses where these effects were observed. They are therefore accounted for in the establishment of the NOELs on which the risk analysis is based.

For the USDA Final EIS for Region 6, Fosamine will not be used due to the lack of data for cancer potential or full toxicological availability (USDA FEIS REGION 6, IV-146, 1988). Tebuthiuron also will not be used. 2,4,D and 2,4,DCP whose by-product is Dioxin (considered by most to be the most deadliest molecule known) will only be used as a last option. Female applicators will not be used in any of the herbicide applications due to lack of data or implications of reproductive damage. **Tests have shown that dioxin will still kill even diluted to parts per QUADRILLION.** Triclopyr will also be eliminated as there are no registration data available.

I have read as much as I could possibly read (I jumped on the wagon very near the end) as well as all the nine volumes contained in the Region 6 FEIS. The Region 6 DEIS was very informative and exciting to read. I particularly enjoyed studying the responses from both WCAP and Carol Van Strum and Paul Merrell. It's exceptionally unfortunate there are not more people in this world that CARE about this earth and the people in it with such zeal. I am truly moved by their intellect and compassion. If you realized how right they are you would get on your knees and thank them for their constant input into the great debate. I have a few discrepancies I would like to cover on some of the chapters I read in both Volumes One and Two. I will try and locate them for you specifically as we go along. Please forgive the lack of organization involved in this assembly. I have two very active children who also need my time and concern. In fact, they are the very reason I have attempted to even tackle this difficult project.

VOLUME TWO////////////////////////////////////

Page 3-33 GLYPHOSATE - there is a possibility it does damage to chromosomes or at least has the indicative factors that it is a mutagen. I cite USDA Region 6 WCAP response letter, 1988.

LIMONENE - there is not enough data here as cited earlier. Please eliminate "generally regarded as safe" as I find ingesting an insecticide to be most repulsive. I suggest you remove the information on page 3-34 continued as this is very biased towards use of an insecticide. I suggest you talk to Dr. Jamison for some up to date research being conducted on both formulas at Triangle Research EPA, North Carolina.

Page 3-47, line 44 inerts... I'd say these Japanese doctors (Sawada, et al., 1988), definitely blew this "disproved" hypothesis out of the final EIS. As cited, the inert is much more toxic than the active ingredient. (Regardless of what target Monsanto has in mind....)

Page 3-48, last two lines... as above, this statement is erroneous. The inert (although not a weed target killer) is still more toxic to other forms of living organisms, than the active ingredient. (THIS ENTIRE CONCEPT OF THE WORD "INERT" IS UNTRUE. INERT IS ACCORDINGLY A DO NOTHING CHEMICAL. SO, BY SAYING A CHEMICAL IS INERT MEANS IT DOES

- 5 The Forest Service in no way intends to use any limonene formulation as an insecticide.
- 6 Please see mitigation number 7 on page II-59 of the Draft EIS. Through this mitigation 2,4-D, 2,4-DP, and tebuthiuron are virtually eliminated from use. Relative to fosamine, we believe sufficient data is available to allow modeling of potential effects. Relative to dioxins, please see the scientific literature cited in response to comments in Letter No. 169, Comment No. 2. In the Final EIS the use of Class B and C herbicides, page II-42 of the Draft EIS, requires Regional Forester approval prior to use.
- 7 In 13 out of 13 mutagenicity assays, glyphosate gave negative results. Although there is a possibility of a weak oncogenic response (resulting in estimation of potential cancer risk in this document), cancer data is relied on only to estimate the potential for mutagenicity and heritable mutations if there are no mutagenicity studies or if those that have been conducted are inadequate for making a judgment, which is not the case here.
- 7 Limonene is found in citrus fruit. The "Generally Regarded as Safe" designation cited is that given to limonene by the Food and Drug Administration, as stated in the text. The Sawada et al. 1988 study mentioned appears to be unavailable in the general literature.
- 8 This statement is accurate. It is made in the context only of human health not in the broader context of "other forms of living organisms."

The word "inert" is defined in FIFRA--the Federal Insecticide, Fungicide, and Rodenticide Act. We accept that definition while recognizing that "inert ingredients" are often chemically very active.

NOTHING (BY MOST EVERYONE'S CONCEPTION). I WOULD LIKE TO DEMAND A REPLACEMENT WORD TO BE USED IN PLACE OF INERT THAT IS A MORE ACCURATE DESCRIPTION OF THE SECRET INGREDIENTS USED BY THE MANUFACTURER.

- 9 Page 4-61, Line 26... Due to the lack of data, prescribed burns should be limited to not less than one year after herbicide application.
- Page 5-2, Idea of MOS... Please read NO MARGIN OF SAFETY by Van Strum/Merrell. This is a marvelous detailed book available thru GREENPEACE that fully explains why there is no safe exposure level when it comes to the dioxin molecule. Dioxin has been found in such everyday items as diapers, tampons, Kleenex and any other paper products that is created by using a chlorine bleaching process.
- 10 Page 5-5 LIMONENE...Please explain how you determined no risk when there is no data available to make such an assumption. Just because you can't see the wind doesn't mean it doesn't exist. I would remove this (line 19).
- 11 Page 5-9 GLYPHOSATE...shrinks the pituitary gland; isn't that what determines growth (regulator)?? Is it not possible that this is the very cause for the unusual pine growth (or lack of) in the South (Per personal communication with Gary Sick -private meeting). Doesn't this suggest there is at least the possibility of human growth being affected??
- 12 Page 5-47 SYNERGISM...lines 16,17,18 this statement has got to be taken out as being false. There are tests cited in USDA Region 6 that shows synergism possibilities.
- 13 Page 5-47 LAST PARAGRAPH...You cite in previous statements that MOST of the 11 herbicides are rapidly excreted. Please remove or reword.
- 14 Page 5-48 CUMULATIVE EFFECTS...This is erroneous. Trichopyr has been shown to be persistent for two years or better and Picloram has been seen in amounts that would likely take decades to breakdown.
- 15 Page 6-8 GLYPHOSATE FEEDING ..LINE 26 +, I would like to see the second year results on both black tailed deer and on deer mice. I bet there were some observations you didn't feel like documenting. There is evidence that glyphosate does more damage in the second and third years to plants and trees (I'll personally vouch for that) it seems like it would be a possibility that the repercussions wouldn't be obvious in animals till the second or third year. Don't they live that long??.....
- 16 Page 6-8 GLYPHOSATE..first few lines relating to insects. According to the 1987 Registration of Glyphosate (USEPA) Glyphosate is very deadly to a certain large beetle.
- 17 Page 8-11 E. BOX TURTLE.. due to personal observation of the watershed contamination on our property, I found that over 20 box

- 9 Available data suggests a different course. Please also see Comment No. 5 concerning dioxin.
- 10 A review of the available literature revealed several studies on which a hazard determination could be based (please refer to page III-24 in the DEIS). The most conservative was chosen, resulting in the NOEL used in this Risk Assessment of 227 mg/kg/day. Exposures were calculated for the public for several exposure scenarios, including such extreme ones as direct spray of a person and drinking water from a pond or reservoir that had been contaminated from an accidental dump of a whole tankful of mixture. These estimated exposures were then compared to the NOEL for limonene. In all cases (even the accident scenarios), the estimated exposure was less than 1/3000th of the NOEL, resulting in margins of safety of 3000 or more, which greatly exceed the benchmark margin of safety of 100 used by EPA and commonly used in the scientific community. Therefore, there is not expected to be any risk to members of the public from the use of limonene in this program. Please refer to sections 3, 4, and 5 of Appendix A for detailed discussions of methodology, toxicity studies, exposure calculations, and risk analysis.
- 11 This effect was observed in a 1-year dog feeding study at a dose level of 100 mg/kg/day. In the same study, no adverse effects were observed at a dose of 20 mg/kg/day. The NOEL on which the systemic risk analysis for glyphosate is based is 31 mg/kg/day, based on a 2-year rat feeding study in which no adverse effects were observed at that level. Based on the estimated exposures no member of the public has a margin of safety for systemic effects, even for accidental exposures, less than 100, and no one is likely to experience even any transient illness, let alone the types of effects seen at the high doses used in laboratory animal studies. Also, plants rely on very different hormones than animals for growth regulation.
- 12 The sentence, in context, is accurate. The cited Region 6 document (page 5-49 and page 5-50 of appendix D) cites a fungicide (thiram) and a building material (asbestos) as causing potential adverse synergistic effects. The single herbicide synergism cited is that of a rat response to a 2,4-D plus picloram skin irritation. No such problems have been reported by our workers using either Tordon 101 or Tordon 101R. Even the Region 6 document cited concludes "...it is possible but very unlikely that synergistic effects could occur as a result of exposure to two or more of the herbicides considered in this analysis" (page 5-50; appendix D; FEIS - R-6).
- 13 Our analysis supports the use of "most" in this context. Wording is accurate.
- 14 Data for persistence must be taken in context. Arid climate generally increases half-life of the studied herbicides--but arid climate data does not apply to the Appalachian Mountain sub-region. Picloram, at rates used in our program, does not pose the cited environmental threat.
- 15 Chronic studies conducted in laboratory animals did not result in this type of effect, so there is no basis for concluding that mammals in the wild would respond any differently.
- 16 According to the Herbicide Section of EPA's Office of Pesticide Programs, there is no 1987 Glyphosate Registration Standard. In the 1986 Guidance for Reregistration of Pesticide Products Containing Glyphosate as the Active Ingredient, it is stated that glyphosate may pose a risk to the endangered valley elderberry longhorn beetle. However, this species is found only in California, and would therefore not be affected by this Appalachian Mountains Vegetation Management Program.

turtles had been killed. We have photographs. It was extreme drought in July of 1987 when the spraying took place. The turtles had dug into the mud up and down the watershed. The first rain literally wiped out the area's turtles. Not only were they killed but the shell coverings were completely eaten down to the bare white bone. I have observed massive kills in Michigan (Painted Turtles) and two or three years later, the shells were still in tact. Accord (conditionally registered) as well as Cide-Kick 2 were applied. At that rate it wouldn't take long for the E. Box Turtle to be back on the list. As drought is again predicted for most of the South, I would take this information into consideration.

VOL ONE

- 18 II-28 PARAGRAPH FIVE RE: NEWLY REGISTERED HERBICIDES..I suggest that these new or experimental chemicals be made known to the public PRIOR to their actual application so that the public will have ample time to develop input and opinions. It is imperative the public is NOT used as guinea pigs for what was once considered chemical warfare development. It is their God-given right to protect their bodily integrity and immediate environment from detrimental forces.
- 19 II-34 TRICLOPYR..I cited previously (USDA REGION 6 NCAP INPUT) that this chemical has been documented "still there" after two years.
- 20 II-34 TERBUTHIURON..Persistence is in direct contradiction to your figures on page IV-101...which is correct? (First paragraph)
- 21 Page IV-19 ONCOGENICITY..Until there is data regarding the specified chemical (Fosamine, Triclopyr, Limonene, & Imazapyr) I suggest that these chemicals NOT be used. I would say the evidence is in no way convincing that these chemicals do not cause cancer.
- 22 IV-24 SYNERGISM...last paragraph...this information is not correct. You must consider all the other possible routes of exposure i.e., schools, hospitals, restaurants, industrial emisions, pet dips, collars, strips, home sprays, etc.....so it is very possible that synergism will occur. I also cite the General Accounting Office(GAO/RCED-86-97, pg.24) which states due to wide-spread use, there is a possibility of cumulative and multiple exposures from non-agricultural pesticides. This insinuates a good chance of synergism. For God Sakes, any housewife knows not to mix chlorine bleach with ammonia. It would produce a poisonous gas. So how come these two chemicals which are both used in formulations are all of a sudden safe to mix????
- IV-26 ASSUMPTIONS...line 4+ I learned at a very young age "DON'T NEVER ASSUME NOTHING"...
- 23 IV-28 PHOTOGRAPH..although it is not priority, this picture is extremely offensive. It seems to be implying something but I hesitate to guess exactly what. I think there is a greater variety of migrant workers.

- 17 Information presented in this comment is inconsistent with the safety and physical data for glyphosate. Glyphosate adsorbs (binds) extremely strongly to organic matter in soil and does not move offsite.. Also, we have been unable to locate data suggesting that glyphosate is caustic, decomposing turtle shells at accelerated rates. The latter comment applies equally to limonene.
- 18 Accord is a new formulation of glyphosate, without the surfactant used in Roundup. Neither glyphosate nor Cide Kick II are new or "experimental."
- 19 Region 6 persistence data does not apply for this area (see also response to comment No. 14 on previous page.
- 20 Tebuthiuron, with a half life of 392 days (table 4-9, page 4-27, appendix A) is extreme for the limited number of herbicides evaluated. However, persistence and subsurface mobility are not necessarily directly correlated (see evaluations in appendix C).
- 21 While data may be considered incomplete, no ambiguous oncogenicity test results have been found for these herbicides and "...all have studies showing no effect (appendix A)" [Page IV-19, same paragraph as cited].
- 22 The context of chemical discussion within the Draft EIS is clearly stated to be 11 herbicides and 4 additives. Thus, within context the discussion of synergism is accurate and it applies only to those 15 chemicals as they are likely to interact with each other and with other chemicals present in the environment. So as to avoid further confusion, the sentence cited from the Draft EIS has been edited in the Final EIS to read: "There are several reasons which make the probability of the occurrence of synergism involving the evaluated herbicides very small."

The examples of chlorine bleach and ammonia's interaction is clearly inappropriate in this context for two reasons: It is outside the scope of the discussion of the 15 chemicals and it does not present a synergistic effect but rather is an example of a chemical reaction. Synergism is defined as cooperative interaction of two or more discrete agencies such that the total effect is greater than the sum of the effects of either used alone. The key to understanding synergism is that the agencies involved are discrete (not reactive), that is they are mixed either in time or space --but retain their separate chemical identities. In the example given by the commenter, the ammonia and chloride chemically react to form phosgene, which is clearly a different chemical with different properties from either of the precursor chemicals.
- 23 The picture shows a Forest Service Young Adult Conservation Corps (YACC) crew being given a "tailgate" safety session prior to going to work.

- 24 IV-54 FOREST..last paragraph..Isn't there any more current information or handbook available than 1983..I mean alot has happened since wwwwasyyyyy back then.
- 25 IV-58 TSI TREATMENT...last paragraph.. If herbicides don't significantly affect or alter the forest, how then can you cite that chemical treatments were effective some 23 years later (evident??).
- 26 IV-59 HERBICIDE USE RATES.. last two lines+.. this sounds very childish. It sounds like you are justifying contribution to pollution. I would also like verification as to application times per harvest.
- 27 IV-68 DATA GAPS..REGARDING ANIMAL EXPOSURE...it is so ridiculous to use any chemical that has not got a substantial amount of background as to animal effects. Citing your own admission, how can you possibly justify risking human health (ANIMAL) by comparing one's life to a test rat??? Even then, there are significant differences between guinea pigs and mice and rats when given the exact test. You can't see the forest for the stupidity.
- 28 IV-70 DERMAL TESTS..line 21, GLYPHOSATE if this (not always chemically pure) compound is only slight to none, please explain why it states on the label "avoid contact, wash with soap & water after use, and flush eyes for 15 min if splashed. Call a physician." My dish soap and shampoo don't list those requirements. I recall glyphosate being comparable to dish soap or baby shampoo....right. There have been numerous reports to CA Dept. of Food & Agriculture on skin and eye damage.
- 29 IV-72 CUMULATIVE EFFECTS ..4TH PARAGRAPH.. Wildlife probably will only be exposed once in a lifetime due to them being killed after the first exposure.....
- 30 IV-110 FOURTH PARAGRAPH..this paragraph implies that farmers violate label instructions and again, very defensive. This is not a justification contest as to who pollutes the worst or most.
- 31 IV-20 SMOKE EMISSIONS..there are over 700,000 privately owned acres in the South that are owned by Bowater Paper Company. They also manage the land and many times in direct correlation to the U.S. Forestry's programs. There have been simultaneous burns from both managements and have choked the population. The old folks in the local senior citizens center were darn near killed. The two should make every effort to collaborate before initiating any sizable burns.
- 32 IV-130 HUMAN HEALTH & SAFETY...these first two lines are as about as stupid as you can get. There is no causal link between asbestos and lung cancer, or Thalidomide and severe human deformities, or 2,4,5,7 and brainless babies yet the courts seem to think it isn't necessary to prove DIRECT CORRELATION. Please don't insult the intelligence of the public.

24 Please review the subsequent paragraphs to that of concern. Data from 1983 reference is still accurate ~~EXCEPT~~ where more current citations are given.

25 Nowhere in this document is the claim made that "...herbicides don't significantly affect or alter the forest." In fact, specific examples of the interruption of succession are given (see especially chapter IV, part C). Where herbicides are properly used to generate specific management objectives, they are effective. If non-crop trees are either killed or have their growth retarded for a period of time by herbicides, their density in the resulting stand will be reduced over time. This reduction of competition is considered to be "effective" treatment when crop trees (conifer or hardwood) are considered.

However, while individual stems are either slowed or killed there is little significance to this action when species survival is considered. Thus, the use of herbicides and the survival of species are compatible management objectives. While the effects of treatments are obvious after varying periods of time, the overall effect on the forest is not a significant one.

26 CEQ Regulations (40 CFR 1500-1508) require assessment of cumulative effects. This paragraph simply puts Forest Service treatments into perspective.

27 Testing using rats is strongly analogous to testing using humans. Mathematical factors, generally accepted by the scientific community, are used to ensure conservatism in the analysis (100-fold margin of safety).

28 Please see pages IV-12 and IV-13 for effects on humans and a fuller explanation of categorization.

29 Evidence presented in both the Risk Assessment and in the EIS do not support commenter's statement regarding fatal effects on wildlife.

30 Page IV-110, paragraphs 3 and 4 describe the magnitude of forestry applications and the magnitude of farming applications for comparison. There is no suggestion that anyone is violating labeling.

31 We agree. Please see mitigation number 1 for prescribed fire, page II-52 of the Draft EIS

32 Page IV-130, Human Health and Safety, describes alternative A where no vegetation management is done, thus there are no direct effects to human health and safety.

33 IV-137 HUMAN HEALTH AND SAFETY..AERIAL TREATMENT .. "Neither drift nor public contact of treated vegetation should pose a risk..." What risk is that? Also, I was told in a private meeting with GARY SICK that the UTILITIES (BAD GUYS) were the ones that were going to be using the questionable Tebuthiuron (Spike) which would most likely be an aerial spray. These knobs and mountains are windy, rainy, zigzagged with deep and long watersheds, and all kinds of streams and springs. I find this idea as very dangerous. It exposes many avenues to contamination. WE ALL LIVE DOWNSTREAM or doesn't gravity mean anything to you.

34 IV-143 SECOND PARAGRAPH..ELIMINATION OF HERBICIDES..if this public safety and health is IMPROVED then how can you possibly say there wouldn't be a risk to the public coming into contact with it, above claim..this is a contradiction.

35 IV-53 SECOND PARAGRAPH.... see this as the fine print. Due to individual forest supervisors, on-site projects, experimental uses, emergency exemptions and the like, anything goes. I only hope that the immediate population and interested public will be notified in a prompt and reputable manner. (That is, if it's not secret and wouldn't jeopardize the national defense or something....)

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I have, finally come to the MOST IMPORTANT PORTION OF MY RESPONSE....

36 According to a letter I have enclosed from the EPA Pesticide Manager, it is up to the individual state (in cooperation with State & Federal EPA) to monitor use or misuse of pesticides. I feel that this is of very real significance to not only the people of the state of Tennessee but to the entire country. I reported what I know was a definite negligent misuse of ultrahazardous chemicals. Due to very poor judgement and lack of concern, our property, person and lives in general were catastrophically affected. I contacted the State Health Department and they took samples. They later announced that there was NO GLYPHOSATE in samples. I then contacted the USDA - TW, Dept. in Nashville. They were the ones I should have called in the first place. They also took samples, gave me duplicates (SEALED & DATED) and pulled the company records. We find that a new commercial form of glyphosate (conditionally reg.) specifically to be used in FORESTRY AND INDUSTRIAL SITES mixed with CIDE-KICK 2, was applied. We were denied records for five months and finally had to get a lawyer to demand them legally. The USDA claimed due to the "nature of the claim" it had to go to the regional EPA. So, in the meantime... I find out half life of glyphosate is very short. I find out that the test used is PROPRIETY TO MONSANTO and that ONLY ONE LAB (STATE) IN THE COUNTRY HAS THE METHOD. EVEN SO, THEY MUST SECURE WRITTEN PERMISSION FROM MONSANTO TO TEST FOR IT. THE ACTUAL METHOD REQUIRED IS VERY EXTENSIVE (SEVEN DAYS+) AND VERY EXPENSIVE (SOMEWHERE IN THE VICINITY OF \$8,000). I received a signed document (ENCLOSED) stating the USDA TENNESSEE (now get this...) DID

- 33 Utility companies, with very different vegetation management needs than foresters, requested an evaluation of tebuthiuron. Please, however, review mitigation number 7 (page II-59 DEIS) with respect to this herbicide. Use of tebuthiuron is not permitted without significant further analysis. The parenthetical ("Bad Guys") is commenters and not Gary Sick's evaluation.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

- 34 In general comparisons are made with the current situation (alternative C). When no herbicide is used (elimination) then there can be no public contact with herbicides. This improves the public health picture only slightly since only a slight risk was determined to be present in alternative C.

- 35 Comment noted, but appears to respond to comment on page IV-153.

- 36 In the Risk Assessment, exposures were not assumed to be contingent on the detection of glyphosate residues in the environment, but rather they were assumed to be present and to result in exposure to humans and wildlife, upon which the risk calculations were based.

NOT HAVE AN APPROPRIATE METHOD TO TEST FOR GLYPHOSATE.
 WHAT2222*****2222

I called Center for Disease Control, Atlanta and spoke with a Dr. Meedham. He also verified that even they had no method or equipment "DUE TO THE STRUCTURE"... I ask myself, "the structure of what?? The political macrocosm?" I also ask myself "Now then, did the state test for it?" Ah huh, they did not have the method or equipment and spent a total 27 minutes looking for it using a method that was not even distantly related. IN THE MEANTIME... we are running out on a ONE YEAR STATUTE OF LIMITATIONS set for personal liability and have had major chemical labs blow the tests twice (when a professional took samples) then we come to cost. This should be considered in your management program ...JUST IN CASE OF A WORST CASE...It has been a costly and traumatic experience I don't want anyone else to go thru. I feel your parents (USDA) are as directly responsible for this blatant travesty of justice as anyone.

The USDA, and Federal EPA all are very well aware of exactly what took place and have not taken responsibility for anything. I was told CARLETON LAYNE (USDA-Atlanta, Also working with Region 8 EIS) was the overseer and would give me an answer to my final appeal. That was well over six months ago. I have yet to receive even an acknowledgement to my second request. I have since had very private tests conducted and have those results. Due to pending litigation I unfortunately cannot include those findings. I do think that even though the REGION 8 FORESTRY MAY NEVER HAVE THIS TYPE OF SITUATION OCCUR, it would be very wise for them to consider it and at least look at the resulting damage. As for the monitoring conducted by the USDA (your parent agency) I truly believe you have more information on mothers, housewives, and activists than you do on the chemicals you apply.

I thank you again for hearing me out. It is something I was compelled to do by a higher source than my better judgement....it was my conscience. I apologize for my sarcasm, frankness, and lack of faith. However, you are the guardians of a public sanctuary and I am the public.

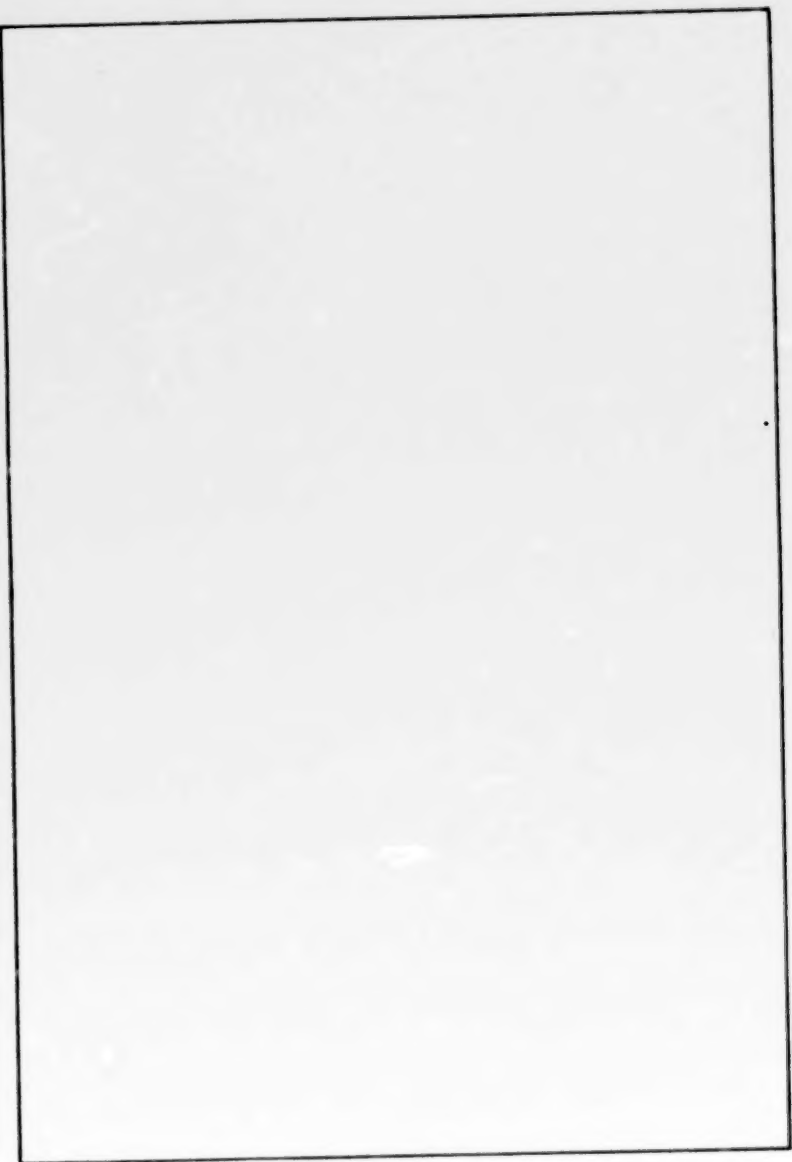
With all sincerity and good intent, I remain

Bernadine Aziz
 Bernadine Aziz - Housewife & Mother

Athens, Tennessee

cc: Senator Albert Gore
 Senator James Quillen
 Southern Chapter of Sierra Club
 Southern Chapter of the Audubon Society
 NCAP
 NCAMP
 EARTH FIRST!
 Environmental Defense Fund
 Greenpeace
 Common Sense Army (Etowah, TN)
 And anyone else I can think of.....

FINAL



 UNITED STATES DEPARTMENT OF AGRICULTURE RETURN OF ANALYSIS	1. SAMPLE NO. TH 024-88 2. REGION IV 3. ESTABLISHMENT NO.	4. DATE COLLECTED 10-05-87 5. DATE REC'D.
6. SAMPLE FROM: TH # TH05872170103 Misuse Any other source of pesticide material other than sample was collected (include ZIP code) 7. PRODUCT NAME Cotton Swab 8. LOT OR CODE NUMBER		9. NAME AND ADDRESS OF PRODUCER (if different from 7 above) (include ZIP code) Insuline Aziz Hanks Chapel Rd. Riceville, TN 37370
10. REPORT OF ANALYSIS Sample # TH 024-88 (IAB 108) has been analyzed by the Pesticide Laboratory, Tennessee Department of Agriculture, Division of Plant Industries, and the following results obtained: SAMPLE - 0103, Swab ANALYSIS Sample was analyzed for chlorinated phenoxy-acid herbicide residues by gas chromatography/diazomethane derivitization according to EPA/HEC methodology. ~~Analysis of glyphosate~~ ANALYST: Joe H. Majors 10-05-87 No residues were detected, picloram (Tordon) and 2,4-D were specifically analyzed for; detection limits 9 Ng./in² picloram; 26 Ng./in² 2,4-D.		
For the purposes of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (7 U.S.C. 1360) requires that if an analysis is made of any sample collected in connection with the enforcement of the Act, a copy of the results of such analysis must be furnished immediately to the owner, operator or agent in charge of the establishment where the sample was collected. This portion of the Act is quoted on the reverse of this form. The information contained in this report should not be used in the labeling, advertising, or other promotion of the product analyzed. Additional information regarding results of analysis may be obtained from the individuals listed below.		
SIGNATURE OF EPA OFFICIAL <i>[Signature]</i> DATE 10-05-87	ADDRESS OF REGIONAL OFFICE (include ZIP code) ~~Regional Office of Agriculture~~ DIVISION OF PLANT INDUSTRY NATIONAL STATION, P. O. BOX 40007 KANSAS CITY, MISSOURI 64140	





Oregon Department of Agriculture

835 CAPITOL STREET NE, SALEM, OREGON 97310-0110

Ms. Mary O'Brien
Northwest Coalition for Alternatives
to Pesticides
P.O. Box 1393
EUGENE OR 97440

Ms. O'Brien, thank you for your recent letter regarding analytical procedures for glyphosphates.

There are analytical procedures for glyphosphate in water and other matrices. There is a high performance liquid chromatographic method with a minimum detectable level of less than 1 ppb for glyphosphate in water. Additionally, there is a significantly more time consuming gas liquid chromatographic method for glyphosphate in water with a minimum detectable level of approximately 1.0 ppb. Modifications of one or the other of these methods can be used for soil, foliage, tissue, blood or urine with, however, significantly increased minimum detectable levels (10-50 ppb). Unfortunately, all of these methods are currently proprietary to the manufacturer of glyphosphate, Monsanto Company. Through a signed agreement with Monsanto we are one of only a few laboratories in the United States that has these methods available for use. We cannot, however, provide the methods to other laboratories without prior agreement from Monsanto. Our understanding of the material for this approach involved the desire by Monsanto to assume themselves of a laboratory's capability in order to avoid erroneous reporting of glyphosphate residues. Right.

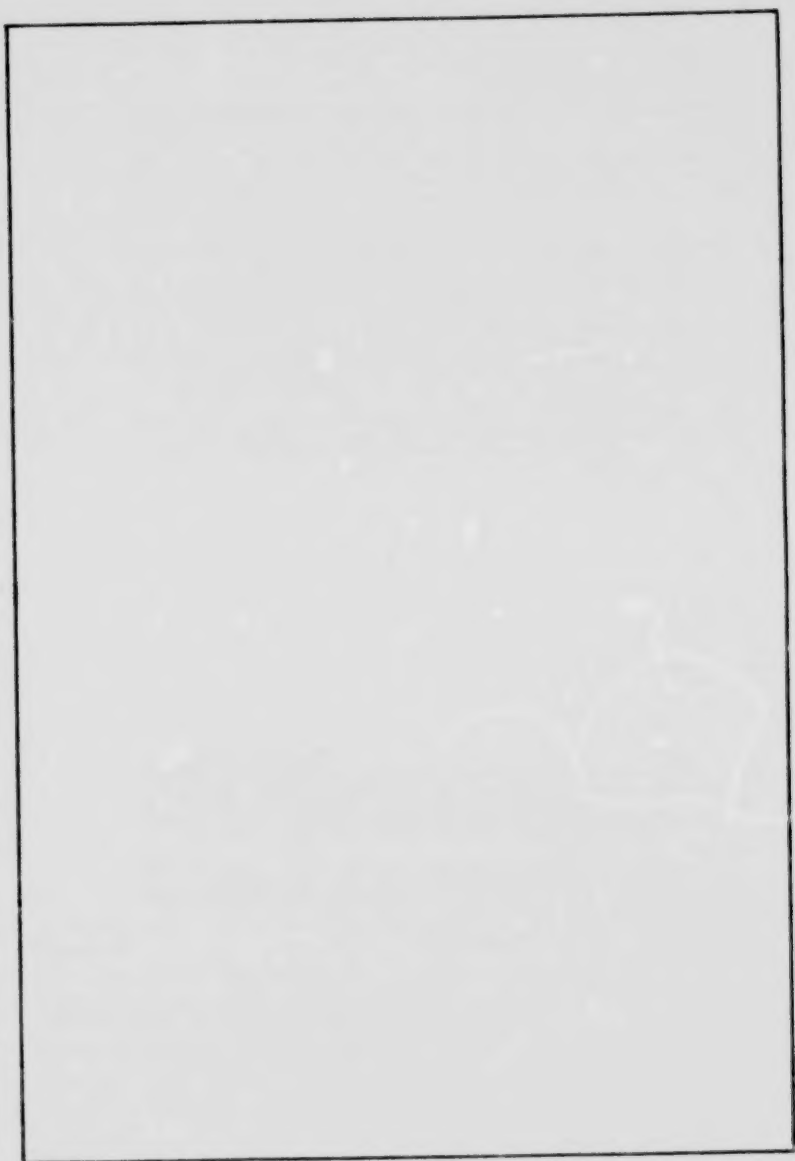
We are aware of the problems with these restrictions, and although it is our definite policy not to compete with the private sector, we will, because of the restrictions with the glyphosphate methodology, occasionally perform glyphosphate analyses for outside parties if there is a special or critical need. We also will refer private laboratories to our contact at Monsanto, but of course, the final decision to provide the methodology is the company's.

I hope this information is of assistance to you. If there is further information that we can provide you with in this regard, please let us know.

W. Michael Wehr, Ph.D.
Administrator
Laboratory Services Division
Pesticide Analytical and Response Center
(503) 378-3793

TeL22P

Set
No. 1000



THE SIERRA CLUB

Tennessee Chapter

February 14, 1969

Regional Forester
United States Department of Agriculture
Forest Service
Southern Region
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

The following comments on the Draft Environmental Impact Statement for Vegetation Management in the Appalachian Mountains are submitted by the Tennessee Chapter of the Sierra Club.

1

The Tennessee Chapter of the Sierra Club recommends that the Southern Region of the United States Forest Service select Alternative B in its record of decision. We recommend the selection of Alternative B because it best protects those values and resources which are scarcest in the region. These resources include:

- (1) Wildlife dependent on natural forest conditions.
- (2) Threatened, endangered and sensitive species.
- (3) Opportunities for primitive recreation.
- (4) High air, water, and visual quality.

2

Except for the infeasible Alternative A, Alternative B is the least costly alternative. In this time of severely restricted funding for federal government programs of all kinds, reducing the losses of the timber management program is very important.

GENERAL MANAGEMENT REQUIREMENTS AND MITIGATION RESOURCES

These management requirements are generally good but need several specific improvements.

Response to Comments in Letter No. 324

From: Ray Payne, Sierra Club, Tennessee Chapter

Comment No.

Response

- 1 Your preference for alternative B was included in the content analysis of all comments received. See response to comments in Letter No. 261, Comment No. 2.
- 2 Alternative B is the least costly to implement when only direct costs are considered. However, current loss in employment, revenues returned to counties, etc. and future loss of marketable resources (one of many outputs of multiple-use management) all contribute to make B less economically appealing.

Page II-44 - Specific Analysis

3

The intent of these requirements is excellent. However, reliance on existing knowledge of threatened, endangered, and sensitive species is not sufficient. NEPA requires that agencies "initiate and utilize ecological information in the planning and development of resource-oriented projects" (Section 102 (H)). These management requirements clearly require utilization of existing ecological information, but the Forest Service must also develop such information in support of its projects. We recommend that these requirements include on-the-ground surveys of every proposed vegetation management site by scientific personnel qualified to recognize individual species and habitats of threatened, endangered, and sensitive species before approval of the project.

Page II-50 - Grapevine Control

4

We recognize the occasional need for grapevine control; however, wild grapes are an important wildlife food. This requirement should have provisions that specify limits for grapevine reduction. We recommend that grapevine control not be initiated unless grapevines exceed 80 stems per acre or occur in at least ten percent of the crowns. When initiated, grapevine control should not reduce grapevines below 40 stems per acre or five percent of the crowns, whichever is greater. This should assure a better distribution of wildlife food, and it recognizes that grapevine density naturally declines as the stand ages.

Page II-58 through 60 - Herbicides

5

Broadcasting herbicides is an inherently imprecise procedure and should not be used. Contractors who apply herbicides have no particular motivation for following Forest Service rules that will minimize the pollution of streams and so on if it inconveniences them. Only with Forest Service personnel supervising their work at all times can we be assured that proper procedures will be followed. Even with good supervision, we have serious concerns about the unintended effects of broadcast herbicides on non-target vegetation. The effects of broadcast herbicides is essentially unknown on many forest plants. Only the elimination of these herbicides can assure that the unintended elimination of non-target species will not result.

6

Herbicides with soil half-lives greater than three months should not be used. The DEIS gives the impression that herbicides with half-lives less than nine months are not persistent. However, after two years, a herbicide with a nine-month half-life will remain in the soil at a concentration greater than ten percent of its initial concentration. Using only herbicides with a half-life less than three months will assure that after one year the concentration of it in the soil will be less than ten percent of its initial concentration. Even in the event of a major accidental spill the effects will not be very long-lived if only short-lived herbicides are used.

Page IV-60 - Direct Effects

7

The DEIS and supporting appendices fail to give adequate consideration to the effects of herbicides on pollinators, particularly the honeybees. These insects (pollinators) are extremely important in the production of numerous fruits and vegetables and in the reproduction of numerous plants. The value of the honeybee as a pollinator far exceeds its value as a honey and wax producer. Many beekeepers have stands in or near the national forests. While herbicides are

- 3 Please see appendix D. Flow chart and discussion clearly answer this concern.
- 4 Because site conditions and the amount of grapevine competition vary so significantly throughout the region, we opted to let individual forests set more stringent standards for grapevine control if those forests deem those standards necessary.
- 5 Please note the extremely low percentage (10%) of broadcast application allowed under the final preferred alternative. Also, please note mitigation measures required on pages II-58 and II-59 as they apply to herbicide rate and method of application.
- 6 Please note mitigation number 7 (page II-59 in the DEIS) and table 4-9 (page 4-27 in appendix A). When this data is combined the maximum half-life permitted by the mitigation (except in very rare and unusual circumstances) is 63 days.
- 7 Where data is available for honey bees, it is specifically stated. See especially section 6 of appendix A for statements such as "...LD₅₀'s of greater than 100 mg/bee..." and other similar references.

obviously not as devastating to the pollinators as insecticides, the question of what effect the herbicides have on them needs considerably more attention.

Herbicides

8

Obviously, we are highly skeptical of and opposed to the proposal to significantly increase the acreage subjected to herbicide treatment. Although the DEIS and supporting appendices go to great length to convince the public that this increase will present no problems, the data gaps identified on pages IV-9, 10, 11, 44, and 69 of this DEIS, and other shortcomings in it, provide sufficient justification for reducing the acreage subjected to herbicide treatment.

EFFECTS OF HERBICIDES ON NON-TARGET PLANTS

The effects of herbicides on non-target plants is not sufficiently addressed in the EIS. As stated in the EIS (see page IV-56):

"Effectiveness of herbicides varies among plant species."

9

Yet, the EIS is not able to give specific information on the effects on different species. In fact, Table D-6 (Potential effects of vegetation management on plant species classified by Forest Service as sensitive...) does not include herbicide effects. While the effects of other vegetation management regimes (prescribed fire, manual, mechanical, and grazing) are projected, the effects of herbicides are not addressed. This lack is presumably because the effects are not known.

Widespread use of herbicides, especially the more non-selective ones, would cause species to be selected because of their susceptibility or non-susceptibility to the herbicides used. As stated on page IV-58:

"Target specificity of herbicides will influence the species composition of residual vegetation on a site."

10

Because the toxicity of herbicides to specific plant species is not known with any detail, the ecological results to the forest ecosystem and to species composition cannot be predicted (and is not predicted in the EIS).

11

In contrast to herbicides, fire has been a part of the ecological environment in the Appalachian Mountains during historic, prehistoric, and evolutionary times. This fact is well documented in the EIS. The ecological effects of fire are much better known than the ecological effects of herbicides. Manual control of vegetation can be very selective of individual plants and species that are perceived as detrimental at a particular stage of a forest's succession. Because fire and manual selection involve processes that the Appalachians forests are adapted to, we encourage reliance on these methods of vegetation management. Target selective herbicide treatments, such as directed foliar sprays, cut surface treatments, and basal stem treatments, that might be considered extensions of manual vegetation control, should be used in preference to less selective methods. These less selective methods, such as spot around, basal soil spot treatments, grid soil-spot, banded foliar, and broadcast treatments, introduce unpredictable selection not only of

- 8 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 9 The degree of detail requested is inappropriate in a programmatic document. There are, however, fairly detailed discussions of herbicide effects on plants on pages IV-54 to IV-60 and on pages IV-84 and IV-85. Herbicides, by design, affect plants and this statement is made on page D-10. It would be redundant to include this data in table D-6. The information requested would be more appropriate for a site-specific analysis.
- 10 General ecological effects are predicted especially in chapter IV, part c, for the vegetative portion and parts A through M for other ecological components.
- 11 Please see herbicide mitigation measure numbers 5-8 on pages II-58 and II-59 of the Draft EIS.

undesired species, but also of species that may be innocuous, desired, or of unrecognised importance to the ecological health of an ecosystem.

EFFECTS OF HERBICIDES ON THREATENED, ENDANGERED, AND SENSITIVE PLANTS

- 12 As implied by the absence of herbicide effects in Table D-4, the effects of herbicides are not known for the plants that are considered sensitive. While the E. I. S. implies that herbicide treatment would not be used on sensitive plant populations whose whereabouts were known, there is no assurance that unknown populations of plants (or animals, for that matter) would be found so that treatment could be modified to spare the populations. This danger is especially critical in the light of the scarcity of forest service scientists knowledgeable about sensitive plants and animals. There are currently not enough people on the ground to do adequate inventories of sensitive species. It is likely that some populations would not be detected and would be adversely affected or wiped out by herbicide treatment.

CUMULATIVE EFFECTS OF PLANT POPULATIONS

- 13 An additional concern in using vegetation management in general is the cumulative effects of selecting what species are to survive on a site and what species are undesired. The potential for changing and simplifying species composition of the forest is inherent in any vegetation management scheme. However, Appalachian species have evolved in balance with fire. Manual vegetation control, being more in the nature of "knocking back" vegetation rather than "killing it off" would allow the natural succession of the forest to be speeded up or altered but not changed from natural parameters. Herbicide treatment has the potential of drastically changing species composition in the forest to an unnatural structure dictated by degree of herbicide susceptibility. By killing root systems as well as above-ground stems (which fire and manual methods seldom accomplish efficiently), herbicide use could decrease a species' representation in the ecosystems in which it is used. Successive uses of herbicides could magnify this effect as they are periodically used, or as a stand undergoes successive rotations with attendant vegetation management. Some species particularly susceptible to herbicides could be eliminated entirely from an area. Repeated treatments over several cycles or rotations could drastically simplify the species composition of an ecosystem. The Forest Service is required to maintain the diversity of species that exists in the forest; therefore, the cumulative effects of timber and vegetation management must not extirpate native species on any area where they would naturally occur.

- 14 We recognize the difficulty of analyzing the vegetation management effects on the large number of native species found in these forests. However, we believe that better analyses than that which are found in this DEIS can be performed. At the minimum, worst-case estimates of the effects of vegetation management on the many species of native plants could be made from existing herbicide effectiveness data. With this data and intensive timber/vegetation management scenarios (over several rotations) the Forest Service could make worst-case projections of species' susceptibilities to extirpation. The species identified by this analysis could then be the focus of monitoring or could point to better vegetation management procedures.

12 See response to comment 9 above. Please see mitigation number 9, pages II-59 and II-60. Detailed information is not given since the herbicides are designed to retard or kill plants. In the absence of mitigation all herbicides evaluated will have some degree of negative impact on plants in the treatment area. Again, please see figure D-1 which requires inventory when inadequate information is available.

13 Two basic premises of the preferred alternative in the Draft EIS make the proposed ecosystem simplification process highly improbable. First, the Draft EIS places heavy emphasis on using selective tools (selective application methods) in preference to broadcast methods; in the general forest area, 100% of herbicide use in hardwood areas is selective and 80% in pine management areas will be selective. Elimination of a species in an area is virtually impossible where selective treatments are properly used. The second point is raised as a consequence of discussion presented on pages IV-58 through IV-60 of the Draft EIS. Thirty years of data summarized by Bramble (cited with and without coauthors) indicates that natural succession is reestablished in power line rights-of-way soon after discontinuing periodic herbicide treatment. The treatments described for rights-of-way are both more severe and more frequent than those used in general forestry practice. Thus, while temporary disruption of frequency of plant occurrence may be predicted, overall disruption of diversity (either onsite or landscape wide) is not probable.

One other point to note. In the Final EIS, further emphasis is placed on treatment selectivity by raising to 90% the proportion of pine management to be performed using selective treatments.

14 Generalizations about the effects of the evaluated herbicides are given in chapter II (pages II-28-34) and in chapter IV (pages IV-54-60) of the Draft EIS. The purpose of the EIS is to give a subregional background document to which site-specific analyses will be tiered. Mitigation measure numbers 1, 2, and 3 (pages II-44-46 of the Draft EIS) require that this site-specific analysis be done. Specific plants of concern are appropriately discussed in that analysis.

Relative to the potential for onsite species elimination, please see previous response. Additionally, mitigation measures 1 and 2 (Draft EIS page IV-46); 2, 3, 4, 5, 5, 7, 8, and 9 (Draft EIS pages II-58-60); 20, 21, and 25 (Draft EIS page II-63); and 27, 32, 33 and 34 (Draft EIS pages II-64-65) are designed to ensure that there is minimal direct effects on non-target vegetation. Many other mitigations are designed to minimize potential impact of indirect effects by protecting soil, water, and air (both on- and offsite) from potential damage.

In addition, the effect on wildlife of reducing the abundance of native, non-commercial plants in the forests should be analyzed.

- 15 We strongly recommend that the cumulative effects of vegetation management and all other activities affecting the diversity of species on the national forests be analyzed in full compliance with the regulations of the Council on Environmental Quality.

- 16 If the Forest Service should decide to manage a larger acreage than that described in Alternative B, only fire (low to moderate burns) and manual methods should be used.

*compiled by Ray Payne with input from Hugh Irwin,
Lance McLeod and Ray Payne*

- 15 Each Forest Land and Resource Management Plan specifically analyzes and addresses the effects of silvicultural systems, harvest cutting methods, and road construction activities. The Appalachian Draft EIS considers the cumulative effects of single and multiple tools over time and space, and where applicable, long-term effects of harvest and/or road building in concert with post-harvest activities such as site preparation for reforestation. For example of discussions relating to harvest and roading effects for wildlife see Draft EIS pages IV-64-66; for soils and water see Draft EIS page IV-95 ("Harvest may increase bulk" paragraph) and pages IV-109-111, and full discussion on page IV-114; for vegetation see Draft EIS pages IV-49 (section 2.a.) and page IV-52 (last paragraph). In addition, some of the activities occur in areas designated as not suitable for timber production (such as most of the Appalachian Trail and balds maintenance, recreation site maintenance, road rights-of-way, and utility corridors. Long-term studies were cited, and where lacking, the research need for additional long-term studies, including multi-rotational studies, was identified in the Draft EIS (pages IV-150 and -151, especially number 13). Numbers 4, 5, and 14 also reflect our awareness of the concerns you expressed.
- 16 In the Final EIS, only low-moderate intensity prescribed fire is permitted. Also see mitigation measure numbers 7 and 8 on page II-54 of the Draft EIS.

Westvaco

February 15, 1989

U. S. D. A.
Forest Service
Southern Region
ATTN: Vegetation Management Team
Room 362 South
1720 Peachtree Road, NW
Atlanta, GA 30367

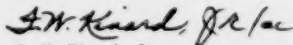
Dear Steve McCorquodale:

1

Thank you for the opportunity to review the EIS on vegetation management for the national forests in the Southern Appalachian Mountains.

This study seems complete in all respects.

Sincerely,



F. W. Kinard, Jr.
Wildlife Biologist

FWKjr:EWC
K0102

Timberlands Division
Box 1950
Summerville, SC 29484
Telephone 803 871 9300

Response to Comments in Letter No. 395

From: E. H. Kinard, Jr.

Comment No.

Response

1 Comment noted.



North Carolina Wildlife Resources Commission

512 N. Salisbury Street, Raleigh, North Carolina 27611, 919-733-3391
Charles R. Fullwood, Executive Director

MEMORANDUM

TO: Melba McGee, Planning & Assessment
Dept. of Natural Resources & Community Dev.

FROM: Don Baker, Program Manager *[Signature]*
Division of Boating and Inland Fisheries

DATE: February 13, 1989

SUBJECT: DEIS Vegetation Management in the Appalachian Mountains

We have reviewed the DEIS for Vegetation Management in the Appalachian Mountains which was prepared by the USDA Forest Service Southern Region and offer the following comments for consideration. This document covers Pisgah and Nantahala National Forests in North Carolina and timber harvesting methods are not addressed.

In general, we agree with the Forest Service selection of Alternative D as the preferred alternative. This alternative appears to offer a greater range of acceptable tools and methods for controlling vegetation on national forests than any of the others. Alternative C which approximates the program in current land management plans also appears to offer the flexibility of a broad range of tools and methods.

None of the other alternatives are compatible with a sound program of wildlife and forest management. Alternative A (no action) would eliminate all vegetation management practices, and in our opinion, would result in a drastic decline in wildlife habitat on national forests. Alternative B allows a very limited vegetation management program (about 40% of the current level) and would also result in a decline in wildlife habitat on the forests. Alternative E restricts the use of prescribed fire and herbicides for site preparation and fuel reduction. This restriction would probably cause lowered stand quality and

Response to Comments in Letter No. 326

From: Don Baker

Comment No.

Response

-
- | | |
|---|--|
| 1 | Your preference for alternative D was included in the content analysis of all comments received. |
|---|--|

Memo

Page 2

February 13, 1989

productivity. Wildlife habitat would be adversely affected by loss of mast capability, and if this restriction were retained for the long term, acreage of timber harvest would be greatly increased to meet timber volume needs. Alternative F eliminates use of herbicides, and Alternative G prohibits prescribed fire. Neither alternative is acceptable because each needlessly restricts the range of management options. In our opinion, Forest Service managers are often faced with a choice of choosing the most economical tool or method or abandoning planned management activities. In many cases, a total prohibition of one or more methods of vegetation management is tantamount to a prohibition of vegetation management. Of course this would result in a significant loss of wildlife habitat. Alternative H (maximum vegetation control) may be too intensive and too expensive to implement. The very intensive program of vegetation management in this alternative may result in some significant wildlife habitat changes, and we would be very reluctant to support this course.

2

Because this document was a regional EIS, specific programs were not delineated for each national forest. Therefore, it is not possible to assess the effects of each alternative upon the Commission's wildlife habitat management program or the current program of vegetation management conducted by Forest Service personnel. In our opinion, the document fails to address many aspects of the Commission habitat program including wildlife food plots, fruiting tree plantings, and wildlife openings.

Our review of the DEIS centers primarily around the comparison of the preferred Alternative (D) and the present levels of treatment (Alternative C) specified in the Forest Land and Resource Management Plans.

3

Our primary concern with the preferred Alternative (D) is the increase in overall acres receiving broadcast herbicide application over current levels. While we recognize the value of this tool for maintaining openings, we also recognize that it is non-selective and can result in loss of valuable plant diversity as well.

Brushy areas resulting from mechanical and manual treatment are used by turkey, grouse, many non-game species, and other wildlife for nesting and escape cover. The loss of dense, woody and herbaceous sprouts and fruiting vines would reduce the value of these areas for cover and soft mast production.

4

Use of aerial broadcast herbicide application

- 2 Specific management activities are dealt with in the Forest Plans for each forest. Determination of objective and allocation of tools is done through a site analysis as required by mitigation measure number 1 on page II-43 of the Draft EIS. While not addressed specifically (this is a programmatic analysis), the wildlife treatments you are concerned about are allowed for in the preferred alternative (see the table at the bottom of page II-9).
- 3 Preferred alternative D in the Draft EIS raised broadcast herbicide treatment from 5,716 to 8,267 acres allowed. As a result of public comment, two new alternatives were evaluated (D and I). In the final preferred alternative (Modified D), broadcast application has been reduced from the present level. Treatment of only 4,824 acres is permitted under this final preferred alternative.
- 4 Please see review of aerial broadcast in chapter 4 of the Risk Assessment which shows extremely low probability of drift and also mitigation measures in chapter II which further reduce the potential for offsite damage.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

Memo

Page 3

February 13, 1989

particularly concerns us due to the high potential for non-target (off-site) impacts.

- 5 We recommend that the USDA Forest Service confine the broadcast use of herbicides to open roads only and on areas where mechanical or manual maintenance of right-of-ways (utility lines, railroads, and pipelines) is not feasible.

- 6 Some pine stands also should be excluded from broadcast herbicide application for site preparation and Timber Stand Improvement to allow mixed pine/hardwood stands and better plant diversity to develop and provide better wildlife habitat.

- 7 Another area that needs particular attention is mountain bald management. We request that no one method be used exclusively to maintain any one bald. Rather, maintenance methods (herbicides, mowing, prescribed fire, and grazing) should be alternated periodically. While we favor the increased use of prescribed fire in Alternative D, this technique alone is not an adequate maintenance tool.

Grazing should be closely monitored to avoid over-grazing. All grazing should be confined by adequate fencing and monitoring to the balds themselves and should not be permitted in the woodlands.

- 8 In conclusion, we prefer to see more emphasis placed upon wildlife habitat needs in all of the alternatives, and especially the preferred alternative. Although much of wildlife management involves manipulating habitat through vegetation management, the level of benefits from each activity often varies greatly depending upon methodology, timing, and many other factors. Although these issues may be more properly addressed when plans for specific activities are made, we believe that the Regional EIS should provide guidance and direction for these plans.

WDB/lp

cc: A. E. Ammons
/Mr. Steve McCorquodale
Mr. George Smith

- 5 In the Final EIS, selective use of herbicides is projected for 30 percent. Because closed roads are normally more primitive and used for wildlife habitat, vegetation management treatments will generally be similar to wildlife openings (mowing and selective herbicide treatments). Broadcast treatments would be normally confined to specific problems such as kudzu. Please see the description of alternative Modified D in chapter II of the Final EIS.
- 6 We agree, in the Final EIS broadcast treatments for pine TSI and site preparation are permitted only 10 percent of the time. See description of alternative Modified D in chapter II.
- 7 We agree, please see mitigation measures for bald maintenance on page II-52 in the Draft EIS. A separate site-specific management plan is required for each bald.
- 8 In the Final EIS, Modified D responds to this emphasis by using more selective treatments (less aerial application and higher percentage of selective treatment for each method) and less intensive prescribed fire and mechanical methods.

Response to Comments in Letter No. 327

From: David M. Startzell

Comment No.	Response
1	Mitigation measure number 8 (page II-59 of the DEIS) deals specifically with various forms of potential visitor exposure. With this restriction in place our analysis shows extremely low risk to visitors. Further measures can be included by the forests their planning and site specific analyses. Only selective herbicide treatments are allowed along trails (Final EIS page II-11). In addition, mitigations in section II.E.2.c require carefully-timed application of least-risk herbicides at lowest effective rates. These constraints should adequately protect hiking activities.
2	Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS). Herbicide treatments for balds must be 100% selective and are primarily for stump sprout control of species such as hawthorn that have to be cut or blackberry control that will occur outside of time that fruit is edible. Also, a specific management plan is required for each bald (page II-52 of the Draft EIS) that prescribes coordination with all uses.
3	Again please note mitigation number 8. Herbicide treatments along trails are 100% selective and are limited primarily to specific problems such as control of stump sprouts or control of certain noxious plants that are not practical to control with manual methods. Other activities that are in the proximity of trails and require herbicides are generally limited to treatments in regeneration areas and utility lines. With stringent mitigations incorporated and requirements of site-specific analysis, we do not anticipate adverse impacts. Selective treatments can be used in the non-hiking season. All water sources are protected by buffers, and selective application (such as basal stem treatments and injections) will keep risk of hiker exposure negligible. Visual impacts will be controlled by careful timing of application. See Final EIS section II.E.2.c.

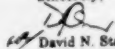
notification. In addition to potentially exposing hikers during application of herbicides, herbicide use along utility lines intersecting the Appalachian Trail would result in long swaths of brown vegetation that are not consistent with the Forest Service's stated visual resource management objectives for the Trail.

We propose that the Forest Service adopt a region-wide mitigating measure which would prohibit use of herbicides within 500 feet of the Appalachian Trail, except in specific instances where limited applications are used to enhance Trail values (for example, to control poison ivy or kudzu by manual application). Manual methods, with slash lopped and scattered to a height not to exceed 12 inches, should be identified as the preferred vegetative management tool within this area adjoining the Trail. Any vegetation management activity within this zone also should require prior consultation with the Trail-maintaining club.

In general, we would like to see greater emphasis in the DEIS placed on restoration of vegetation. Vegetation management is not solely a matter of control of vegetation; rather, it includes reclamation of areas where vegetation has been modified by man's activity. There are numerous areas along the Trail, and certainly many more areas within the region described in the DEIS as the "Appalachian Mountains area," where the primary vegetation management concern is reestablishing vegetation to reduce effects on soils, water and/or aesthetic resources.

Based upon an assumption that less use of herbicides region-wide would result in less use of herbicides on or near the Trail (or at least less incentive to do so), the Appalachian Trail Conference supports Alternative B or F, both of which emphasize use of manual, mechanical, biological and prescribed burning techniques for control of vegetation. We would also like to go on record in support of Forest Service efforts to maintain the Appalachian Mountain balds, particularly those that are crossed by the Appalachian Trail, through use of fire, livestock grazing, and manual methods.

Sincerely,


David N. Startzell
Executive Director

cc: Mike Dawson
Morgan Sommerville
Pam Underhill/Paul Brewster
Bob Proudman
Ray Hunt
Margaret Drummond

- 4 The suggested mitigation is far more restrictive than can be supported by our analysis. We have added a mitigation to the Final EIS that requires a 200-foot buffer for streams, roads, and trails when treating utility rights-of-way aerially. In addition, mitigation measure number 14 on page II-49 assures visual quality objectives be met for corridors. The Appalachian Trail is classed as either Preservation or Retention; therefore treatments would not be visibly apparent.

We feel the previously mentioned mitigation measures and changes in the Final EIS do not necessitate a blanket management corridor for herbicides. These, plus each trail-maintaining club working with each Ranger District when the site-specific analysis is prepared, should be sufficient.

- 5 We agree that many areas need re-establishment of plant cover to restore soil, water, and visual quality. But such restoration was not included in the scope of this EIS (Draft EIS page I-2). Restoration needs and goals have been identified in Forest Land and Resource Management Plans.
- 6 Your preference for alternative B or F was included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Joseph W. Roberts
738 Town Mt Rd.
Asheville, N.C. 28804

Feb 14 1989

U.S.D.A. Forest Service
VMF Room 362 South
1720 Peachtree Road N.W.
Atlanta, Georgia 30367-9102

To whom it may concern;

- 1 I am writing to express my concern & to oppose the use of herbicides in the National Forests. I feel that the use of these herbicides both ground & aerial affect the health of human wildlife & plants. By the direct contact & also by getting into the groundwater surface water systems.
- 2 I would encourage other means of controlling the plant growth in these use areas. Western North Carolina has a history of being an economically depressed Region. With the closing & scale down of local industry such as Champion Int. in Canton, NC. There is a need for employment. To control these areas with manual labor would help the local economy & people not the chemical companies. Please consider this in your assessment of this issue. And that this letter is in opposition to the use of these herbicides.

Sincerely Joseph W. Roberts

Response to Comments in Letter No. 398

From: Joseph M. Roberts

Comment No.

Response

- 1 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Please see response to comments in Letter No. 22, Comment No. 1 and Letter No. 57, Comment No. 3.

Rt.2 Box 235
Bakersville, N.C. 28705
February 6, 1989

Vegetation Management EIS
1720 Peachtree Road, NW
Atlanta, Georgia 30367-9102

Dear Sirs:

This letter is in response to your Vegetation Management Summary.

I found the summary to be very vague and felt that it was probably designed to make an educated response difficult. On consulting the large document though, I feel ready to respond.

- 1 In my opinion the Alternatives other than A are designed as reactions and supplements that attempt to make even-age management work better. It is therefore difficult for me to accept any of the alternatives as I felt that un-even age management should be employed on the majority of the Forest.

With select harvest methods used as the primary harvest system, and using group selection as a means to release shade-intolerant species, the use of herbicides could be cut to almost nothing.

I find the U.S.F.S.'s directional value change toward industrial tree farming methodology (clearcutting, increased use of herbicides, compartmentalizing the forest) as opposed to true multiple use of most acres disturbing.

Is it the direction that public lands should be going when the majority of the public is opposed to this value change?

The National Forests are a treasure in the public domain capable of producing good timber without limiting it's recreative and tourism potential. The present trend toward budgeting almost entirely for timber programs (and that under even-age management) does not fill the other public needs and in fact degrades the forest for it's other uses.

- 2 I feel that the below percentages should be employed for vegetative management:

- 5% herbicides
- 5% prescribed fire
- 75% manual
- 14% mechanical
- 1% grazing
- on not more than 2% of the areas designated for timber production.

- 3 The increase of manual treatment would not only supply jobs but would drastically reduce the dangers of herbicides and fire.

Response to Comments in Letter No. 399

From: Will Ruggles

Comment No.

Response

- 1 Many of the alternatives reflect the activities and program sizes developed in Forest Plans. Silvicultural systems as referred to in unrelated comments on page I-7 in the Draft EIS are not within the scope of this document. Regardless of which harvest system applied, various vegetation management tools and intensities are required to obtain the proper species composition, spacing, and maintain the best forest health. In unevenage management, treatments including the use of herbicides may be required every decade or so, and in evenaged systems, treatments usually occur only at the regeneration and release of new stands. The EIS preferred alternative reflects the programs as currently shown in Forest Land and Resource Management Plans. Also see response to comments in Letter No. 392, Comment No. 2.
- 2 Please see response to comments in Letter No. 166, Comment No. 2. In the Final EIS, an alternative similar to this was considered. Comparison with other alternatives are found in chapter II and effects in section N of chapter IV in the Final EIS. One of the major disadvantages is lack of hazard fuel treatment with prescribed fire to meet needs throughout the Appalachian forests.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
- 3 Please see responses to comments in Letter No. 22, Comment No. 1 and Letter No. 57, Comment No. 3.

- 4 The danger of wildfire is greatly increased by the use of clearcutting and could be mediated by select harvest methods. The threat to ecosystems by alteration of soil makeup, both chemical and biological, by improper burning is good reason to reduce the percentage of prescribed burns. It's too easy for man to make mistakes.

- 5 As stated in the D.E.I.S. appendices, too much is not known about herbicides to use them so freely. "Data gaps exist in our knowledge", "but human toxicity data are lacking", "Oncogenicity data unavailable." Potential degradation to water quality, aquatic life, non-targeted botanical and biological life is too much to risk by using herbicides as a primary management tool.

It appears to be only a matter of time (and scientific advancement) from when a herbicide or pesticide is introduced for use to when they are extremely limited or banned from use. History proves this.

Nature has provided an intricate balance to maintain life. It is becoming obvious that man's attempts to accelerate and thus alter this natural balance of the planet are proving dangerous to the ecosystem that has thus far maintained our existence.

- 6 Poisoned wells in heavily farmed areas by accelerators such as pesticides, herbicides and fertilizers; Vastly increased erosion, partially resulting from these methods; the greenhouse effect, of which the final tale has yet to be told, but will with near certainty result in severe disturbance to biological well-being; acid rain — the list goes on.

The U.S.F.S. has a chance to be a "good guy" in this confusing time. I feel that it is a mistake for it to jump on the risky bandwagon of private industry. It should be the work of the U.S.F.S. to maintain the integrity of the ecosystems for which they are responsible.

Sincerely,

Will Ruggles

Will Ruggles

cc

Bjorn Dehl
Dale Robertson
Robert Carey
Rep. James A. Gilre Clark
Sen. James Helms
Sen. Terry Sanford

- 4 The risk of very intense wildfires that cause long-term soil damage are greatest in two situations. First, arson fires in extreme drought conditions; and, second, where you have heavy hazard fuel build-up in large continuous tracts. Broken fuel types and irregular size class often are allies in containing wildfires. Clearcutting is not within the scope of this EIS as discussed in chapter I of the Draft EIS. However, vegetation management that occurs in clearcuts, such as low-moderate intensity prescribed fire, chainsaw site preparation, or selective herbicide treatments, do not greatly increase the danger of wildfires. Also please review appendix B which contains detailed discussion about potential effects of fire.

- 5 Please see response to comments in Letter No. 480, Comment No. 3, for data gaps.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 6 When properly applied and mitigated, the Forest Service's Region 8 vegetation management program will not significantly disturb "the balance of nature," nor will it "vastly increase erosion. Increases in the greenhouse effect or acid rain effects are generally beyond the scope of this analysis, though we address possible contributions to these global phenomena in our cumulative effects analysis.

Feb 19, 1977

Tim Carter
 2360 Rainbow Dr.
 Anniston, AL 36201
 83131

U.S. Forest Service
 Vegetation Management EIS
 Atlanta, Georgia, 30367

This letter is in response to the
 U.S. Forest Service EIS comment period.

I am opposed to the U.S. Forest Service's use of herbicides in our Appalachian Mountains. Particularly the Shoal Creek District in Cleburne and Calhoun County, Alabama. I am a resident of Calhoun County. My home and property are located near the Calhoun & Cleburne County line next to the Shoal Creek Watershed. This watershed's water supply is dependent upon Shoal Creek and water runoff from the Jalladaga Forest. It is the runoff into the Shoal Creek and Shoal Creek watershed that will be faced or contaminated by the herbicides that I am concerned about. In the "Draft Environmental Impact Statement," it is stated there is "the risk of water pollution from these herbicides". I do not want any chances of risks with my water supply. My home's water supply is

(4)

Response to Comments in Letter No. 400

From: Tim Carter

Comment No.

Response

- 1 Risk of water pollution by herbicides exists only where they are aerially applied near flowing streams (Draft EIS pages IV-99 to IV-101). Such pollution is possible only if a flowing stream is accidentally overflowed while herbicide is still being dispensed. If this does not happen, risk of polluting surface or ground water is minimal due to mitigation measures requiring that herbicides be applied at low rates (Draft EIS page II-58), in favorable weather (page II-62), as granules or large droplets (page II-64), and using buffers whose widths have been shown to provide good protection (page II-64). Even if accidental direct application to a stream does occur, risks to water quality drop rapidly downstream due to mixing and dilution (Draft EIS pages IV-99 and IV-101).

In alternative MODIFIED D (preferred in the Final EIS), aerial herbicide application will be allowed only on main power transmission lines where the terrain is so rugged, remote, and inaccessible that no other treatment is practical. Only 400 acres per year are projected for aerial application in the 5.2 million acre Appalachian area, and the likelihood of suitable sites on the Talladega National Forest is very low. Finally, mitigation number 30 on Draft EIS page II-64 has been changed in the Final EIS to double the width of the buffers at stream crossings for aerial application to 200 feet and provide an extra margin of water protection in mountain terrain.

a well. The watershed has a great influence on the water supply (water table) in my well. Also, Choccolocco Creek borders my property. It also has a watershed in the Chatahoochee National Forest.

The City of Marietta is currently making plans to develop the Chief Crook watershed as an additional water source for the City of Marietta.

- 2 I am opposed to the Forest Service's use of bushfires for prairie reason. It is apparent the Forest Service's intent is to have a segregated forest - A Pine Forest. It's real purpose is to cater to the Pulpmongers industry - or All Costs - regardless of other revenues it could take to develop tourism and the needs of endangered wildlife and plantlife. An integrated forest of different woods - trees - is important to the balance of nature. What wildlife and plant life not in danger today, may be in the future. An endangered species problem cannot be remedied quickly. A forest devastated by clear cut methods is not a pretty sight, and does not play well on tourism ~~promphlets~~ pamphlets.

A solid Pine Forest does not add much to the Autumn Glory of fall colors of the forest.

As a tax paying citizen, I am one of millions that own the West National Forests. I object to the use of bushfires in the Appalachian Mountains.

Thank you,

Jim Costa
2362 Rainbow Dr.
Marietta, GA 30061
Ph 404 236 4422

2

The issues of clear cutting and pine vs. other species management are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest. Page 1-3 of the Draft EIS describes activities addressed in this EIS.

Rt 2 Box 132A
 Alto, Ga. 30510
 Feb. 15, 1989

USDA Forest Service
 Atlanta, Ga. 30367

Dear Sirs:

Thank you for this second opportunity to comment on the proposed Vegetation Management in the Appalachian Mountains. I appreciate the way the EIS was presented with alternatives clearly outlined.

- 1 I would favor Alternative B with some modification. I favor the use of low intensity mechanical tools and low intensity fire burns, but not the use of any herbicides and not the low-cost production of timber for the benefit of commercial enterprises.

- 2 We should be concerned with the preservation of our watersheds, the protection of our soil, air and water for the benefit of all our citizens. As more information about the effect of herbicides comes to light, even so-called "safe" ones, their long-term damage becomes more evident. Not enough is known now to permit their use, and may not be known for another several decades. Aerial application only spreads the risk. Cancer takes a long time to develop, both in humans and animals; I was concerned that monitoring seldom occurs beyond 3 years after treatment.

- 3 While banning herbicides may be less economical, manual and mechanical methods do employ more people and do not expose workers to possible disease. The reduction of acreage treated in Alternative B should reduce the cost enough to provide for higher employment.

Sincerely yours,

Adele Kushner

Mrs. Adele Kushner

Response to Comments in Letter No. 401

From: Adele Kushner

Comment No.

Response

- 1 Your preference for alternative B was included in the content analysis of all comments received. See response to comments in Letter No. 261, Comment No. 2.
- 2 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 3 Please see response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3.

Most of the herbicide use proposed in the preferred Modified D alternative is selective application which is labor intensive. See selectivity table in description of alternatives in the Final EIS.

5/15/89

Dear Sirs:

- In reference to the Draft
1 EIS, I am very much opposed
to the use of toxic herbicides &
to their aerial application. There
is insufficient research & docu-
mentation for their use. Please
reconsider this plan.

PO Box 665, Demorest, GA 30535

Alice Arnold

Response to Comments in Letter No. 402

From: Alice Arnold

Comment No.

Response

- 1 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

Rt. 4, Box 4561
 Clarksville, GA 30503
 February 15, 1969

USDA Forest Service
 1720 Peachtree Rd., N.W.
 Atlanta, GA 30367

60151

Re: Draft Environmental Statement
 Vegetation Management in the Appalachian Mountains

Comment on scientific analysis:

- 1 Analysis is comprehensive and thorough but is flawed, through no fault of the Forest Service, by incomplete and often inconsistent data on characteristics and effects of herbicides.

Comment on alternatives:

- 2 Analysis does not seem to justify the choice of Alternative D as the preferred alternative; rather, it suggests that the best choice, from the standpoint of environmental and human safety, is Alternative F. Even though the risk of soil damage and of injury to field workers from mechanical or manual methods is greater for Alternative F than for Alternative D, these risks appear to be more amenable to proposed mitigation measures than are the risks from herbicides. Potential damage from herbicides is largely unknown, is not confined to field workers, cannot be guaranteed to affect only targeted areas, and, most important, their long-range effects, unpredictable on the basis of current knowledge, could be disastrous. In support of this position, extracts from your report are cited below.

Examples of incomplete or inconsistent data:

- 3 (Vol I, pp. IV-67-68) When assessing herbicide effects on wildlife, we face an overwhelming number of species with data gaps and inconsistencies in data...Toxicological data are unavailable for most species in the Appalachians...evaluated by using data for similar species...Response varies greatly among species even within the same taxonomic groups.
 (Vol II, Table 3-6) No chronic studies on oncogenicity of fosamine; no valid chronic studies on mutagenicity or oncogenicity of limonene; studies on mutagenicity and oncogenicity of imazapyr inconclusive.
 (Vol I, pp 8, 9) Current scientific knowledge does not allow quantification of mutagenic risk...Currently there is scientific uncertainty about the potential of 2,4-D, 2,4-DE, glyphosphate, picloram and the light fuel oils to cause cancer in humans...Field data on worker exposure are limited...No field data on public exposure.
 (Vol II, Table 4-10) LD₅₀ of limonene not available for some species.
 (Vol II, Table 4-8) Half-life of 2,4-DA, 2,4-DE, TWA, TRE not available.

Response to Comments in Letter No. 403

From: Peggie G. Stamper

Comment No.

Response

- 1 Incomplete and unavailable data does not constitute a flaw in our analysis. It is one of the reasons for which the Risk Assessment (appendix A) was prepared. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act, 40 CFR 1502.22, prescribe methods for dealing with incomplete and unavailable data which we have rigorously followed. Where data were incomplete or unavailable, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risk has been magnified far beyond that which is probable in the field.

- 2 Your preference for alternative F was included in the content analysis of all comments received. Please see response to comments in Letter No. 522, Comment No. 1.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

- 3 Wildlife risk is extensively addressed in the Risk Assessment. Please see appendix A and effects in chapter IV of the Draft EIS. In addition, many mitigation measures are required in chapter II of the EIS which address these problems; reducing risk from unknown factors. See also response to comment 1 above.

-2-

Examples of acknowledged risks from herbicides:

(Vol I, p. x) 2,4-D, 2,4-DP, tebuthiuron pose risk to workers using backpack sprayers.

(Vol II, Table 4-8) The half-life of tebuthiuron (a Class C herbicide) is 392 days.

(Vol II, Table 3-6) Some mutagenicity and oncogenicity tests are positive for 2,4-D, 2,4-DP, picloram, fosamine, tebuthiuron, and triclopyr.

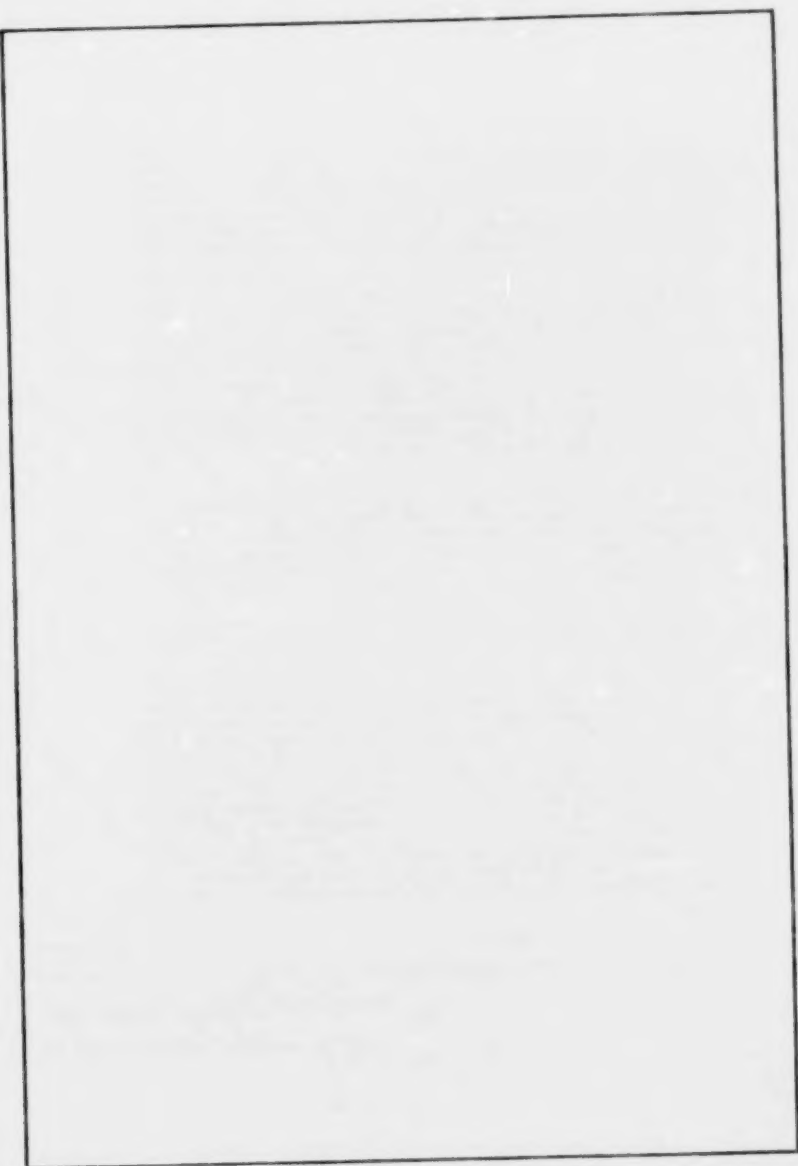
(Vol I, p.IV-83) 2,4-D, 2,4-DP, and triclopyr probably pose significant risk to the Indiana bat and Virginia bigeared bat.

(Vol II, Tables 8-1, 8-2, 8-3, 8-14) Extreme dose estimates for 2,4-D, 2,4-DP, dicamba, and triclopyr exceed 1/5 LD₅₀ for Eastern bluebird and exceed or approach 1/5 LD₅₀ for red cockaded woodpecker.

Further evidence could be cited to support a request that you reconsider your preference for an alternative which increases herbicide use above current levels and that you give consideration to the adoption of Alternative F.

Sincerely yours,

Peggie G. Stammer
Peggie G. Stammer



Comments concerning Draft Environmental Impact Statement
 "Vegetation Management in the Appalachian Mountains" Management
 Bulletin RS-MB 24, November, 1988.

- 1 The Forest Service preferred alternative (D) seems to have been selected with complete disregard to the desires expressed in the public opinion survey of mid-1987, where "the order of preference for methods to be used was manual, mechanical, prescribed fire, and herbicides" (p. I-6). Alternative D calls for 69.4 % of the area to be treated each year to be done by the use of fire and herbicides -- an increase from 5.4 % currently being treated by these methods (Alternative C). If the expressed public in it is to be ignored, it would cause less irritation not to ask for it. Since the average direct cost per acre treated is less by manual methods than by herbicidal methods (Table IV-18, p. IV-129), the direct costs do not appear to have been an over-riding consideration.
- 2 The method of establishing the set of alternatives to be considered is not adequately documented -- the statement in Chapter II A is very vague. The selection and definition of alternatives is one of the most significant and important phases of an effort such as this, and can easily predetermine the conclusions. The "no action" alternative (A) is probably required by the guidelines for Environmental Impact Statements, but would hardly be considered to be a feasible alternative. A minimum required effort (B) would certainly be included, as should the present practice (C). The choice of mixes of effort for the other five alternatives seems suspect, however, and no adequate rationale for the various mixes is presented. My own preference (also presented without rationale;) would be something like: 10 % herbicide, 30 % fire, 33 % manual, 26 % mechanical, 1 % cattle grazing.
- 3 The uncertainties regarding the effects of herbicides, and the public opposition to their use, should be sufficient justification for limiting their use to situations where they have some clear advantage, such as maintenance of ROW in excessively rough or steep terrain; but under such circumstances, I consider aerial application to be justified if adequate precautions are observed.
- 4 (Question: Why should the Forest Service bear the expense of utility ROW maintenance, as seems to be implied by this document? Surely the utility profiting from use of the ROW should be responsible for its maintenance, under Forest Service supervision, as part of the cost of doing business?)
- 5 The distribution list for this document is worthy of comment. A number of land and lumber companies and utilities were included, as well as governmental agencies, individuals, and media, and colleges and universities (where presumably some of the copies may eventually find their way to the library). Under the heading of Libraries, however, the list is short and does not include any public libraries in cities and counties of the area under discussion. Every public library in the area affected should be on the distributive list. When I first learned about this document, I attempted without success to obtain it from the Macon County (N. C.) Public Library. Next I went to the Wayah Ranger Station, where I was given a copy of the Summary, which contained insufficient information to be very useful; The Ranger Station had only one copy of the full report, which was then in use. I finally telephoned Atlanta and received the complete document.

Response to Comments in Letter No. 404

From: John M. Formwalt

Comment No.

Response

- 1 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS. The basis for each alternative has been included in the Final EIS (section II.B.).
- 2 Something very close to your preference is analyzed as alternative I in the Final EIS.
- 3 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

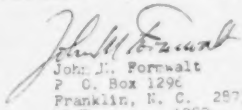
As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

Comments -- p. 2

6 There is a great deal -- perhaps too much -- of well-documented information in the report and appendices. Some of the material is repeated unnecessarily (unless this is required by guidelines), and there are some points of weakness, such as the lack of rationale for mixes of treatment methods and the lack of regard for opinions expressed in the preliminary survey.

7 Forest Land and Resource Management Plans are frequently referred to in the document, but are not identified in the References (Chapter VIII). It would appear to be desirable to reference those Plans which are supported by the Environmental Impact Statement so that they could be located by interested parties.


John J. Portwalt
P. O. Box 1296
Franklin, N. C. 28734
13 February, 1989

(I am a retired scientist with adequate credentials in another field.)

- 4 The Forest Service does not bear the expense of right-of-way maintenance. However, we do bear responsibility for approval of various management activities on utility ROW under permit. Thus methods used to maintain rights-of-way within national forests must be evaluated.
- 5 Each of the names listed in section C of chapter VI represents either a specific request for the EIS or simply an indication of a desire to participate in the process. A letter from the Forest Service asking for input was sent to over 13,000 people, and included several libraries. However, we sent the document only to those who expressed interest rather than all 13,000 who received the first letter. The Government Printing Office (GPO) also makes microfiche of our publications for the over 1,300 Federal Depository Libraries, from which you may borrow through the Macon County Library.
- 6 Please see response to your Comment No. 1.
- 7 Individual Forest Plans are available through the Supervisor's Office as well as all District Ranger headquarters of the Forest in question.

2/2/77

Response to "Vegetation Management in the Appalachian Mountains",
Draft EIS

Comments on Scientific Analysis:

- 1 The scientific analysis is thorough, but I believe it is seriously flawed by several factors. 1) It is stated several times that the Vegetation Management Plan accepts the Forest Land Resource Management Plans or that reanalysis or close integration of the two is beyond the scope of the current document. In fact, in choosing any of the alternatives, the primary consideration has to be the Forest Land Resource Management Plan. For example, the preferred alternative (D) could be acceptable if the Forest Land Management Plans were more reasonable. Given the huge amounts of timber harvest proposed by that Plan, alternative D represents too much additional management. I believe there is simply too much total manipulation of vegetation proposed. The excessive timber harvest amounts (particularly clearcutting) represent a real threat to the well-being of the National Forests. 2) Too many conclusions for managing Appalachian Forests are based on research data from outside the mountain region. 3) The analysis of alternative A is abysmally unobjective. It is loaded with misunderstanding, misinformation, and obvious bias. A poor job.

Comments on Alternatives:

- 2 All things considered, Alternative B represents the best of the alternatives. Primary reasons for supporting this alternative are: lowest amount of vegetation management other than "no action", lower stream disturbance, favors a greater amount of mid-late successional habitats (timber harvest is resulting in far too much early succession habitat already - we have far too little "old growth" habitats at present).

Other:

- 3 It is not clear what time frame the Vegetation Management Plan addresses. This very much determines my choice of alternatives. It is not clear how the mix of treatments in each alternative were arrived at. There are apparently many other combinations. I believe some would be better. The balance of treatments seem arbitrary. It is also not clear why the United States Forest Service prefers alternative D. While I am not in favor of herbicides in general, I can see the necessity of limited use. I am strongly opposed to serial spraying of any herbicides.
- 4

Alan B. Smith

Alan B. Smith
Consulting Biologist

PO Box 887
Hars Hill, NC 28754

Response to Comments in Letter No. 405

From: Alan B. Smith

Comment No.

Response

- 1 Forest Land and Resource Management Plans and this EIS are critically linked. Chapter I discusses that linkage and chapter IV section Q discusses how conflicts can be resolved. Pages II-2 through II-19 describe all the alternatives. Near the end of each alternative description is a table which shows, by method, the various kinds of vegetation management being done. Note that, in each case, less than half of the treatments are timber related. Timber harvest (no matter how) is not within the scope of this EIS.

We used all available research data of which a considerable amount was from the Appalachian Mountains. Other research data if reliable and applicable was used so as to provide the soundest scientific basis for the analyses. Extreme care was taken not to make unwarranted conclusions.

CEQ Regulations (40 CFR 1502.14) require analysis of a "do nothing" or "no action" alternative. Our discussion of alternative A is in response to the no action alternative and disclosure of effects if no vegetation was done.

- 2 Your preference for alternative B was included in the content analysis of all comments received. Please see response to comments in Letter No. 261, Comment No. 2.
- 3 The time frame for a programmatic EIS such as this is approximately five years at which time should be reviewed for needed revision. Amendments will occur as new information becomes available. The mix of treatments were made by assigning a mixture associated by the theme of the alternative (low or high intensity) and what would be practical. Two additional alternatives were developed in the Final EIS. Also see response to comments in Letter No. 484, Comments No. 3, on development of alternatives. An exhaustive list of alternatives is not required; just a reasonable range. The Draft EIS covers what is considered a reasonable range and conforms to criteria stated on page II-1 of the Draft EIS.
- 4 Your opposition to aerial spraying of herbicides was included in the content analysis of all comments received.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

2/14/89
 Knoxville, N.C. 29-46

Dear Sir,

Thank you very much for allowing me the opportunity to offer my input regarding vegetation management in our Southern Appalachian mountains.

- 1 Having worked with herbicides in the past, I must say that I am pretty much against their use. I have spent a considerable amount of time applying a supposedly mild herbicide (Roundup, for one) wearing a face mask with respirator, rubber gloves, rubber boots, and protective disposable jumpsuit and still felt a little 'funny' after I finished my spraying. With all the various chemicals slated for use, and Roundup is one, I cannot help but think (I guess this flies in the face of all Forest Service research in regards to the herbicides you'll have shown to us) that in the long run the ecosystem will be hurt at the expense of the expediency that herbicides offer.

- 2 While burning is the traditional way the southern highlanders clear land, it seems that it has yet to be proven effective in the Southern Appalachians for Forest Service applications. However, I believe it is the more preferable alternative over chemicals. This being said, I can only urge that no burning be permitted during nesting season.

- 3 Though perhaps not so feasible due financial and manpower considerations the use of manual techniques would seem a very attractive alternative. It would be non-toxic and infinitely more cleaner than fire.

- 4 On option not much discussed is that of grazing. I do see that it is intended for some use on the balds - this is excellent! Hopefully the size of grazing will be enlarged since the benefits of grazing would be many.

Response to Comments in Letter No. 406

From: Ralph Fickel

Comment No.

Response

- 1 While recognizing that there are individual variations in the response to herbicide use, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. We have added an additional mitigation (No. 15) in chapter II, page II-65 in the Final EIS that requires medical examination to workers who display unusual sensitivity to a particular herbicide. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Please see mitigation number 15 on page II-55 of the Draft EIS.

Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be moved or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

No chemical residue, none of the pollution and hazard (as well as dependence upon the weather) of burning, and it could be a source of income (instead of paying manual labor to do the work). Many farmers, of course, would benefit from grazing their livestock on the various balds, fields and meadows. It is sincerely hoped that the ECHS Service will give more attention to the grazing (biological) alternative.

- 5 ~~Till this being written~~ I guess the alternative that I would feel most comfortable with would be Alternative F with some reservations. Hopefully the biological side would be greatly enhanced.

Thank you for your consideration

Regards,
Ralph Eckel

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Appalachians. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-121 to IV-122).

- 3 Each tool has both favorable and unfavorable effects depending on where, when, and how it is used. While manual tools have some of the favorable effects listed, they also have effects such as high risk of accidental injury considered unfavorable by other commenters. For a more complete discussion of the safety effects of vegetation management methods, see pages IV-26 to IV-30 of the Draft EIS. Mitigation measures for the use of all tools (pages II-44 to II-66 of the Draft EIS) are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to the environment.
- 4 As stated in the previous response, each tool has both favorable and unfavorable effects. Grazing as a biological method to manage vegetation on balds does have many of the favorable effects you listed; however, it also has effects such as soil compaction, water contamination, and damage to non-target vegetation that others would consider as unfavorable. The mitigation measures on page II-65 of the Draft EIS are used to minimize adverse effects where the use of biological methods occur. In the Final EIS, grazing as a biological method on balds has been increased in all alternatives except A which allows no treatment of any kind.
- 5 Your preference for alternative F was included in the content analysis of all comments received. Please see response to comments in Letter No. 522, Comment No. 1.

P.O. Box 57
 Gurney, GA 31427
 February 14, 1989

Regional Forester
 USDA, U.S. Forest Service
 1720 Peachtree Road, NW
 Atlanta, GA 30367

This is in response to your request for comment on the DEIS for vegetation Management in the Appalachian Mountains.

1 Although obviously much work and compilation has gone into this DEIS, it remains inadequate for making long term decisions. The state of our knowledge to safely use the products of our technological science has not yet caught up to the products themselves. Recurrent references in the document with comments such as "are not likely", "probable effects", "as far as is known", "the likelihood of", "a general consensus", "it is believed that", "no evidence that current...", etc., etc., all indicate inadequate or incomplete study, knowledge and analysis for both short term and especially long term effects. Granted very few things in this world are "for certain" but the notorious uncertainty experienced over and over again in this document cannot be a good basis for justifying product use.

The document also causes an unfortunate flavor of a slanted justification statement. It amasses a little of the tobacco industry's claim that no one has yet proven "to our satisfaction" that smoking cigarettes has any deleterious effects on human health. This conclusion may be reversed in the courts before long.

2 If this legal precedent is set, what will the Service take as their position when challenged in court with the innumerable uncertainties expressed in the DEIS or its finalized version. The proponent should be in the position of being able to prove somewhat conclusively that no harm will occur to human, animal or any "desirable" lifeform or relationships by use of the product -- not just that it is expected, thought, or believed at the current state of knowledge to be non-detrimental to "appropriate" life forms. Most individuals have a choice whether to expose themselves to potentially dangerous substances. Introducing herbicides over relatively large areas of National Forests and potentially private lands within National Forest boundaries -- especially without broad based public notification -- could conceivably expose five to twenty percent of the population potentially sensitive to the product (5-49).

One should not experiment with so much risk and so much unknown -- you do not take these risks with so much at stake; the health and perhaps the lives of five to twenty percent of the population.

3 Some other elements of the DEIS that concern me are: STORMGA-TURNSPORT-USA: the oil spill scenario; the likelihood that there will be an accident involving one of the above activities in a specific area is remote but the probability that there will be one

Response to Comments in Letter No. 407

From: Walter Rule

Comment No.

Response

- 1 In this document we have complied with the Council on Environmental Quality (CEQ) regulations on incomplete and unavailable information, which require analysis of "... reasonably foreseeable significant adverse effects to the human environment ..." (40 CFR 1502.22). Recognizing that there are significant incomplete or unavailable data related to herbicide use, we have prepared a risk assessment (appendix A) to comply with CEQ's requirements. In the risk assessment, we evaluate maximum (or extreme) and accident scenarios which are essentially worst case analyses that exceed CEQ requirements.

The Risk Assessment used a modeling approach to estimate the potential of each herbicide, additive, and inert ingredient to cause toxic effects, cancer, mutations, and birth defects under a range of scenarios, from highly probable (typical) to unlikely (maximum) to very unlikely (accidents). It also evaluates bioaccumulation and synergism of the chemicals. Sufficient information exists concerning herbicide applications to make reasonable estimates of potential exposures. The effects of those exposures are evaluated based on toxicity data for each herbicide from previous accidental and controlled human exposures and from laboratory animal studies. This risk assessment method is widely accepted in the scientific community.

The Risk Assessment is supported by background herbicide profiles including those found in USDA Forest Service Handbook 644, and it was subjected to rigorous scientific review. Where information was found to be insufficient to evaluate what effects might occur, conservative assumptions were consistently made to deliberately overestimate potential health risks to people and wildlife. For example, 2,4-D was assumed to present a cancer risk although EPA considers the available data to be insufficient to draw this conclusion.
- 2 Alternative Modified D, preferred in the Final EIS (section II.B.5) projects that herbicides will be used on about 29,300 acres per year; this is only 0.6 percent of national forest land in the Appalachians. On 80-85 percent of these acres, herbicides will be applied selectively (directly to individual target plants) with negligible risk of public exposure. Risk of public exposure is further reduced by mitigation numbers 16 to 18 (Final EIS page II-65), which include prior notification.
- 3 Accidental spills of herbicides are very rare, with none yet reported in this Region. Their effects are analyzed under the accident scenario (Risk Assessment and EIS sections IV.B, IV.D, and IV.G) and are minimized by mitigations on Final EIS pages II-64 and II-67-68.

2.

with expanded use becomes more and more likely. It's just a matter of time. Is the risk worth it?

4 5-4 Again "much remains to be learned...." what are the effects and results of interaction with micro-organisms? What will the long term effects on forest birds? Is a "general consensus" a sufficient basis to go on? Shades of Silent Spring; short term evaluations with insufficient data. Do we have to wait twenty or thirty years until perhaps irreversible reactions take place in the forest/biosphere?

5 5-4-51 SENSITIVITY When the huge diversity of exotic materials ~~is~~ being released into the world environment is considered, what assurance do we have that interaction of the proposed chemical constituents will not create an "ozone hole effect" similar to that that the chlorofluorocarbons have, which, while undetected now, could have disastrous effects on forest food chains and reproduction-- not to mention the potential interaction on adjacent or nearby human populations. Biological controls have so much more potential at such lower risk levels one wonders if the large corporations manufacturing the artificial components from dwindling petrochemical resources are not exerting pressures harmful to the world's social, economic and environmental systems, for short term profits to the corporations.

6 "Individual susceptibility ...cannot be specifically predicted"-- another outlandish evaluation. Will those subject to exposure be tested to assure they are not so sensitized and consequently not subject to fatal reactions? Will the five to twenty percent (5-45) of the population which is "highly unlikely" to be exposed be advised in advance to avoid National Forest areas to be treated? This is another section so filled with conjecture and supposition that relying on its premise puts any activity based on its analysis at great risk. 5-50 first paragraph; "...for very few cases...their significance in controlling toxicity....is not known." Again is the risk, based on such poorly defined information, worth it?

7 The SYNERGISTIC EFFECTS possible in our chemically loaded environment should not be overlooked. Similar to the previously mentioned "ozone hole effect", interaction with other artificial chemical constituents of the current biosphere could produce products inimical to various lifeforms. Has substantial research, not just conjecture based on casual observations, been done in complex forest ecosystems under controlled conditions?

8 MUTAGENICITY - Could the synergistic reactions referred in the paragraph above bring about mutagenic reactions not examined or projected in table 3-5, p. 3-30?

DIVERSITY Has the elimination of the "undesirable elements" of the forest stands targeted been evaluated over the long term? Will elimination of the micro-biota potentially affected change the "desirable balance" in the forest?

I must admit to a hasty review but I was constantly struck with the uncertainty of the language and its tendency to justify rather than impartially review and examine.

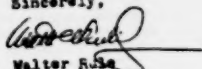
The high degree of uncertainty I detect most certainly must lead

- 4 Short- and long-term effects to forest biota are addressed in appendices A and C and EIS chapter IV, sections C through G.
- 5 In view of the conservative nature of our analyses which deliberately overestimate risks, and our mitigations (EIS section II.E.2.c) requiring least-risk herbicides to be applied at lowest effective rates under many constraints, the risk of such a disaster is negligible. Our class A chemicals have half-lives of 6 days to 2 months (appendix C, table 1), so virtually none remains on a site a year after application. Bioaccumulation does not occur (appendix A, sections 5 and 8). No biological control method that causes less adverse impacts than our proposed herbicide program has yet proven successful at operational levels (Draft EIS pages II-41 and II-43).
- 6 No reported case of such a hypersensitive reaction due to exposure to any of the 11 herbicides or 4 additives evaluated in this EIS has been found in the medical literature - despite a cumulative use of these products of 200+ years and including many non-forestry applications far in excess of those permitted by this EIS. Mitigation 15 (Final EIS page II-65) protects sensitive workers, and mitigations 16 to 18 minimize risk of public exposure.
- 7 Synergisms are discussed on Draft EIS pages IV-24-25 and appendix A, pages 5-46 to 5-49. No synergisms have been identified.
- 8 The purpose of vegetation management is to reduce, not eliminate, plant competition and to provide a wide variety of plants and animal habitats. Mitigation measures in the Draft EIS such as numbers 1-3 on pages II-44-46, numbers 16-18 on page II-50, numbers 2 and 6 on page II-58, and numbers 7-9 on page II-59-60 are designed specifically to protect and enhance the variety of species and habitats on national forest lands. Soil biota are not affected by the proposed level of herbicide use (Draft EIS page IV-98).

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

3. unanticipated
to a high degree of probability that there are many potential risks
in the herbicide usage proposed. Considering the condition of the
world's biosystems, should not the world's leading forestry organiza-
tion be exercising leadership into natural control systems rather than
products potentially inimical to man and other desirable biological
systems?

Sincerely,



Walter R. Rife





WATAUGA AUDUBON SOCIETY

A CHAPTER OF NATIONAL AUDUBON SOCIETY

100 Otari Drive
Kingsport, TN 37664
February 12, 1989

Mr. Steve McCorquodale, Team Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA 30367

Dear Sir:

We have the following comments relative to the Draft EIS for Vegetation Management in the Appalachian Mountains.

1 At the outset, we recognize that you all have performed a monumental task. In view of the large amount of information essential to such an undertaking, it seems a thorough search has been performed. We feel that the large amount of missing information has made the task an impossible one and that it is thus seriously flawed.

2 The title itself is a misnomer, since the subject matter deals only with how to KILL plants, not how to grow, culture or utilize plants. Vegetation CONTROL would have been more accurate without being perjorative.

3 In general, we feel that your preferred Alternate D, with its increased use of herbicides, is a move in the wrong direction. We note that this choice is heavily biased toward program costs and timber goals as deciding factors. We strongly recommend Alternate E instead as less threatening to health, wildlife and esthetic factors while using some additional expenditures to create additional jobs.

Introduction

4 Killing, burning or removal of plants does not add to visual quality. It can provide an opening from which to enjoy the visual beauty of a vegetated scene. If done carefully it can also provide other benefits with little detriment to visual qualities. It does not ever improve water quality although detrimental effects can be minimized. It can increase water quantity but often the increase is at the wrong season. For useful results and may result in downstream flooding.

Response to Comments in Letter No. 408

From: Arthur S. Smith

Comment No.

Response

- 1 We believe that the use of Risk Assessment and environmental modeling has allowed a scientific analysis using scientific methods. Please see more in response to comments in Letter No. 280, Comment No. 3.
- 2 We disagree. Manual, mechanical, fire, biological, and herbicide tools can all be used in a manner which reduces, without killing, competing vegetation. The subject of vegetation management includes control and, in some cases, killing or removal of competing vegetation.
- 3 Non-timber outputs were a major consideration in the selection of a preferred alternative and economics was of minor concern. Please also see response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3. Your preference for alternative E was included in the content analysis of all comments received. Also see response to comments in Letter No. 281, Comment No. 7.
- 4 We have analyzed the maintenance of existing vistas to be an integral part of existing visual quality. Visual quality is enhanced by some vegetation management treatments. For example, prescribed fire can stimulate flowering plants and create a more open, "park-like" understory (Draft EIS pages IV-124 to IV-125). Use of herbicides, mechanical tools, and prescribed fire may increase stream nutrients which can improve aquatic productivity in nutrient-poor mountain streams (Draft EIS page IV-107); if sediment production is minor, the net effect on water quality can be beneficial.

Mr. Steve McCorkquodale, Team Leader
 Page 2
 February 12, 1989

Management Requirements and Mitigation Measures

- 1.a. Your task is to protect the environment, not just the human environment. There is only one and we must share it with wildlife and plants, useful or not. Each has its place.
- 2.a.16,17. Fire is inappropriate to bald management since it is conducive to blackberry growth and produces unacceptable visual problems.
- 2.3. Who will certify chainsaw operators?

Summary of Comparison of Alternatives

Alternative A does not result in impairment of visual quality. It may reduce vantage points to enjoying it.

Alternative D offers increased risk to workers and public due to herbicide use. You cannot say how much because the risk assessment is flawed due to lack of data. The copious study and precise conclusions are not very useful when based on so many assumptions. The introduction of aerial spraying brings serious additional risks for health, wildlife, and non-target plants and constitutes a serious "communication" or image problem.

Alternative E meets reasonable output expectations with lower risks. Costs are higher than D. However the national forest areas being considered traditionally operate timber operations at a loss so as to provide jobs for USFS personnel and within the timber industry. This is a political decision. If jobs are a valid objective, spend a little more on safer vegetative control while creating a few more jobs.

The Preferred Alternative then should be E.

Chapter III, B.1.b. - Balds. Should probably not try to re-establish balds. The unique vegetation will not be present, only a grass lawn.

Management to provide special habitat requirements for unusual plant and animal life and survival needs for protection of E, T, P and S species on balds is tricky since these species survived for thousands of years before the white man arrived to manage. In fact long before the Indians arrived they were making it on their own. They probably would continue if man had not intervened. These plants are so closely adapted to their seemingly inhospitable habitats that a little over-management could be a disaster. We must proceed here with extreme sensitivity and caution, learning as we go. No herbicides up here at all - too many precious plants to take chances on mistakes, carelessness, misunderstandings or lack of knowledge.

- 5 NEPA defines impacts (adverse or beneficial) in terms of "...the quality of the human environment." We have adopted that terminology while addressing the environment in general.
- 6 As indicated in mitigation measure number 25 on page II-52 of the Draft EIS, a detailed management and action plan is prepared for each bald to be maintained. It contains an inventory of existing and past boundaries; flora and fauna; history of past use; management objectives; and specific guides for types and timing of treatment types to use; areas of vegetation to treat and protect; coordination with public and other uses; and monitoring requirements. Fire may not be appropriate on some balds; however, this needs to be decided based on site-specific analysis and the information in the management and action plan developed for each bald based on specific local needs and objectives. As stated in chapter III, page III-16 of the Draft EIS, fire is historically appropriate to many of these areas, but balds management will likely consist of the use of a variety of methods that will change over time on an individual bald. In the chapter IV discussion of fire on Appalachian Mountain balds, pages IV-46 to IV-49 of the Draft EIS, we specifically state that although fire is the most frequent method used to manage balds, it is not as effective where woody species are already present and that it stimulates the spread of blackberries if they are present. In areas with established woody species, methods such as manual cutting, mowing, grazing, stem specific herbicide application, or various combinations of these may be more appropriate than fire. On balds with established mountain oat or other grasses with little to no woody species encroachment problems, fire may be a very appropriate management method. Again, the decision to use a particular method must be based on site-specific needs and objectives. An important key to effective management is the flexibility to use the methods that best meets site-specific needs and objectives. The elimination of a particular tool decreases management flexibility.
- 7 Experienced certified Forest Service instructors certify chain saw operators in a rigorous written/practical exercise testing procedure.
- 8 Loss of the ability to appreciate a vista is an impairment of visual quality from that vantage point.
- 9 See comment number 1 above. Increased mitigation, reduced application rates, more emphasis on selective rather than broadcast, etc. (see chapter II mitigations) reduce risk to almost current levels despite increased acreage treated. For data gaps, please see response to comments in Letter No. 480, Comment No. 3.
- 10 The Draft EIS does not conclude that alternative E has lower risks than current (they are about the same), see page IV-140, paragraph 3. See also alternative D discussion on page IV-137. Additionally, while the Forest Service must be conscious of its role in the community and the economy, providing jobs was not an overriding objective of vegetation management because of the small differences in employment between alternatives C, D, and E (table II-9).
- 11 Your preference for alternative E was included in the content analysis of all comments received. Also see response to comments in Letter No. 281, Comment No. 7.
- 12 Comment noted. Not all of the areas identified as balds will be managed as such. As stated in chapter III of the Draft EIS, many of these areas are now forested. Decisions as to which balds will be managed and to what intensity will be made at the Forest level. See also response to comment 6 of this letter.

Mr. Steve McCorquodale, Team Leader

Page 3

February 12, 1989

- 14 B.1.C. - Wilderness. No prescribed fire in Wilderness. These areas and the plants in them existed long before man started burning them. They were different when only lightning fires periodically renewed them. That is the purpose of Wilderness - freedom from management.
- 15 B.1.d. - Fire Management and Fuel Types. The advance regeneration of oak by prescribed fire is still just a theory. At this point we do not know why oaks are decreasing or how to get oak regeneration after clearcuts. Harvest methods may be to blame, or environmental factors. Proceed with caution!
- 16 H. - Socioeconomics. Note minor role Ag. Serv. Forestry employment plays compared to Retail and Services. It is important to manage for esthetic and quality of life factors rather than timber production. If timber industry employment is not included in Ag. Serv. Forestry, you need to say so.
- Chapter IV, B. - Human Health and Safety.
- 17 1. Effects of Herbicides. Risk assessment inadequate due to lack of data. Conclusion of safety unjustified.
- 18 Data gaps - cost and delay: Tests will have to be done regardless of cost. The only questions are who pays and when. It is not accurate to say that we cannot manage the national forests without herbicides in the meantime. There are other, time-honored methods. Your prejudice and preoccupation with dollar figures is showing.
- 19 Maximum Public Scenario. Berry pickers sometimes eat a pint or more of berries day after day in season. Do not use 2,4-D, 2,4-DF, Dicamba or Triclopyr. There is no way to educate or warn the public adequately against this hazard.
- 20 Typical Worker Scenario. Workers will often refuse full body coveralls in hot weather, regardless of rules.
- 21 Herbicide Oncogenicity. No evidence or inadequate evidence of harm does not mean the herbicide is safe. It is your responsibility to assume it is unsafe until there is adequate evidence of its safety.
- 22 Bioaccumulation. Cannot be discounted by elimination studies. We need studies of retention with chronic exposure and studies of top-of-the-food-chain predators.

- 13 Comments noted. The decision as to which methods and tools are most appropriate for an individual bald will be made after site-specific analysis and development of the detailed management and action plan developed for that bald. See also response to comment 6 of this letter.
- 14 Comment noted. We state in chapter III, page III-17 of the Draft EIS, that vegetation management is not generally practiced in wilderness areas. There are circumstances where natural or prescribed fire may be considered so as to protect threatened and endangered species or reduce unnatural fuel buildups. These decisions will be based on appropriate site-specific analysis and goals and objectives contained in individual Forest Resource and Land Management Plans.
- 15 Comment noted. We have identified the need for more research on the use of prescribed fire for the regeneration of hardwood stands (chapter IV, pages IV-32, IV-46, and item 8 on page IV-151 of the Draft EIS).
- 16 Aesthetics and environmental quality are two parts of the multiple use objectives of the Forest Service. However, as with timber, wildlife, recreation, etc., these two are not overriding concerns but rather are concurrent with many other demands for goods and services.
- 17 No conclusion of "safety" presented; conclusion is of low risk. See also comment number 1 above.
- 18 Dollar figures are cited in direct response to CEQ Regulations (40 CFR 1502.22(b)) in this discussion. Pressures from a variety of interest groups must be balanced. "Time-honored methods" only work in a traditional forestry setting which no longer exists.
- 19 See mitigation number 8 on page II-59 of the Draft EIS which prohibits treatment when berries are fruiting. Also your scenario would probably not be practical because fruit would wither or not be edible after 1-2 days.
- 20 Forest Service requirements for personal protective equipment -which exceed EPA's requirements in many cases - will be met on all Forest Service projects whether performed by Forest Service or by contract crews. This is a change from current, EPA only, requirements.
- 21 The data we found was by itself inadequate for the purposes of assessing risk. However, it was adequate to form the basis for realistic modeling, which was done in the Risk Assessment using conservative assumptions throughout.
- 22 While such data is currently very incomplete, it would be a great advantage to have it available.

Mr. Steve McCorquodale, Team Leader
 Page 4
 February 12, 1989

Comments on Appendix A

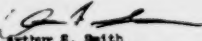
- 23 You recognize the many data gaps and inadequacies. Unfortunately you have chosen in many instances to assume a substance harmless until proven guilty. Where data is inadequate to clearly demonstrate safety, the substance should not be utilized.
- 24 In considering exposure you have assumed that instructions will generally be followed. They will seldom be followed closely and typical exposures for workers will be higher than you anticipate and exposure for the public will be increased. For example: Many workers will not wear protective clothing when it gets hot; they will dump leftover herbicides and rinse containers in streams occasionally; they will continue aerial operations too long after a change in the weather.
- 25 Spray nozzle tests to simulate actual operations should have been performed perpendicular to the wind, not with the wind.
- 19 Some berry pickers eat significant quantities day after day during season. Your exposure assumptions are too low. This is a real problem for 2,4-D, 2,4-DP, and Triclopyr.
- 26 Run-off from some soils of Fosamine will constitute a hazard to livestock and wildlife at ponds.
- 27 The public exposure from likely accidents with 2,4-D, Dicamba, Diesel, Fosamine, Hexazinone, Kerosene, Tebuthiuron and Triclopyr is too high to be wise.
- 28 Note the spill experience reported from Washington and Oregon: 1.2/1000 acres/year. This translates to 42 spills per year for Alternate D and 62 for Alternate A. That is a lot!
- 29 The worker hazard figures in Table 5-7 are gruesome. It appears deaths would not be likely, but close. Too close for 2,4-D, Fosamine, Glyphosate, Hexazinone, Kerosene, Sulfometuron methyl, Tebuthiuron and Triclopyr. Be sure to specify MSDS use.
- 30 It is inappropriate to compare cancer risks to the public or a needful worker with risks from motor travel, air travel, smoking, peanut butter or saccharin. Each of us has a choice in these matters. Occupational risks also must be made a matter of informed choice.

- 23 It is possible to draw conclusions as to product risk; however, it is impossible to conclude absolute safety. Modeling has been used where data were incomplete or unavailable, and that modeling discovered certain risks which we were unwilling to endorse and some which were within a range of risks deemed "acceptable." Also see number 9 above.
- 24 Please see response number 20 above. Forest Service employees failing to follow the mitigations are subject to disciplinary action; contractors to being placed in default of contract. We expect these mitigations will be followed.
- 25 Greatest potential for drift would occur when droplets are carried by the wind in the direction the wind is blowing. Wind assumed flowing perpendicular to a linear right-of-way was evaluated and drift was assumed with the wind but perpendicular to the flight direction.
- 26 Hazard data are unavailable to support commenter's claim. However, runoff analysis in combination with mitigations required for buffers in chapter II indicate no significant potential for water contamination by fosamine.
- 27 We do not accept that accidents are "likely," nor would all potential accidents expose the public to hazard. Risk of public threatening accident is extremely low and mitigation measures for herbicides in chapter II further reduce any potential negative impact from an accident.
- 28 Data presented in the Risk Assessment is for illustrative purposes. Documentation of an "average" herbicide accident has been difficult since few accidents have occurred in Region 8. We, therefore, used data from Region 6 to present a worst case probability. Quoting from page 5-31 "...there was one accident for every 12,587 acres..." treated, NOT 1.2/1000 acres as stated in the comment. Also, keep in mind that with mitigation number 19 (page II-63 of the Draft EIS), ground applicators will rarely carry more than four 5 gallon drums of herbicide to a field location. So, a 44-gallon average spill (Region 6 data) is truly a worst case approximation.
- 29 We agree that the data shows extremely high risk from accidents which are NOT mitigated. The conclusion that this risk is of mortality is, however, inappropriate. Margin of safety is the quotient from dividing animal No Observed Effect Levels by the projected dose received by an individual. The NOEL used is lower than the lowest level of chronic dosage which resulted in any observable effect (or, the highest dose at which no effect was noted). The effects can be weight loss, reversible enlargement of an organ, or any number of other non-fatal effects. In this regard, please see response to comments in Letter No. 456, Comment No. 2. Also, please see the extensive list of mitigations which should preclude any unmitigated accident from occurring.
- 30 We think it is appropriate to include these comparisons in a specific attempt to permit managers to make an informed choice and the public understand relationships of risks.

Mr. Steve McCorquodale, Team Leader
Page 5
February 12, 1989

- 31 We agree with your statement about "considerable amount of uncertainty in toxicity data and methods" for wildlife risks. You use chukar as a surrogate for a wild variety of other animals with no justification, mouse as surrogate for shrew and dog as surrogate for the scarcely related black bear, river otter and bobcat. This not science but garbage!
- 32 The effects on wildlife through ecological changes related to non-target plants and aquatic and soil organisms will likely be more important to wildlife than direct effects. Evidence is inadequate on soil retention, fate in water, effects on Endangered, Threatened, Proposed or Sensitive plants or on lower organisms.
- Comments on Appendix D
- 33 Note effects of herbicides on E, T, P or S plants is not included. Herbicide use thus makes inventory and identification of plants in prescription process crucial. You do not now have adequate resources for this but must provide them. Please include this added cost of herbicide use.
- Comments on Appendix E
- 34 Note the severe consequences of fire on steep slopes causing excessive erosion. Present safeguards against this are inadequate. They must be strengthened.

Sincerely,


Arthur S. Smith
Chairman, Conservation
Committee

AB/dh

- 31 We disagree. Analogy is an accepted scientific tool where specific data is unavailable, and the model accounts for species variations just as it does for comparisons with humans.
- 32 For these effects, please review appendices C and D.
- 33 Effects of herbicides and other methods are found in the Biological Evaluation, appendix D. Inventory is a management cost - associated with and necessary for any form of vegetation management and is important for all methods.
- 34 Please see mitigation measures 7 and 8 on Draft EIS page II-54. We think these are adequate for prescribed fire. However, an individual forest can be more restrictive if they desire.

Jerry & Diane Mason
2712 Acton Road
Birmingham, Alabama 35243

February 10, 1989

Room 3625
USDA Forest Service
1720 Peachtree Road, N. W.
Atlanta, Georgia 30367

1 After reviewing the VEGETATION MANAGEMENT DRAFT EIS, we find that the harvest methods (clearcutting/selective cutting) and forest wide diversity are not issues addressed. The method of harvest dictates what vegetation management is necessary for regeneration. Vegetation management is also the biggest threat to forest wide diversity, which is a necessity for any National Forest in the Appalachian Mountains. Since the harvest methods and diversity issues are inseparable from the vegetation management issues, they must be addressed in the Final EIS.

Additional concerns are as follows:

- 2 1. Toxic herbicides should be dealt with in the most conservative manner possible. Aerial application is very dangerous in the mountain environment.
- 3 2. Toxicity of herbicides to humans, wildlife and soil organisms is poorly documented in the risk analysis. There are large gaps in understanding of how these chemicals effect the environment. Acute toxicity is a poor indicator of the possible health and reproductive risks to wildlife.
- 4 3. The Chattahoochee National Forest has agreed to work toward decreasing herbicide use in their Land and Resource Management Plan. This places the Chattahoochee National Forest's plan in conflict with the EIS.
- 5 4. The EIS presented 17 research needs, many dealing with the effects of management methods on humans, wildlife, soil and water quality. These research needs should be met before any vegetation management activities begin on public lands.

Response to Comments in Letter No. 409

From: Jerry & Diane Mason

Comment No.	Response
1	Harvest method and diversity issues are discussed in the Forest Land and Resource Management Plans for each National Forest and are outside the scope of this EIS. Please see chapter I for a discussion of the linkage of Plans and this EIS.
2	The herbicide analysis (Risk Assessment in appendix A) is extremely conservative. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1. Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).
3	Acute toxicity as a primary indicator of possible health and reproductive effects is used only in the wildlife analysis - and there, as a direct result of identified data gaps and research needs. Human health analysis includes all facets of acute and chronic toxicity data.
4	Please note on page II-1, "...These acres are only projections, used to project environmental effects.... They are displayed for the Appalachian forests as a whole, not for individual forests."
5	Results of the EIS analysis and required mitigation measures including monitoring on pages II-43-66 in the Draft EIS do not show a need to stop herbicide use. Additional mitigation measures and existing ones have been strengthened in the Final EIS. Research is an ongoing process existing since the beginning of the Forest Service. It is a lengthy process and information is used to guide our management techniques as it is developed. Until all research is completed, many times conservative modeling is used. Also see response to comments in Letter No. 280, Comment No. 3.

6

5. What is most endangered by vegetation management in our National Forests is the potential reduction in the number of forest environments. This reduction has already taken place on private and industrial forest lands.

Thank you for your invitation to review this very EIS.

Sincerely,

Jerry L. Mason

Jerry L. Mason

Diane M. Mason

Diane M. Mason

The concern with decreasing numbers of mature communities on a landscape or regional scale is important. As noted above, we acknowledge the potential loss of presettlement vegetation types following certain treatment (intense mechanical treatment, in particular). In this EIS, we have tried to provide information about treatment effects on individual sites. Planners and decision-makers at the District and Forest levels will apply the information to the maintenance of diversity, especially with regard to sensitive species and sensitive communities. Mitigation measure number 1 (Draft EIS, pag. II-44) recognizes the requirement for managing to maintain biological diversity.



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
Atlanta GA 30333

February 15, 1989

Mr. Steve McCorquodale
Leader, Vegetation Management EIS Team
U.S. Dept. of Agriculture
Forest Service
Regional Office, Region 8
1720 Peachtree Road NW
Atlanta, Georgia 30367

Dear Mr. McCorquodale:

We have reviewed the Draft Environmental Impact Statement (DEIS) for "Vegetation Management in the Appalachian Mountains" and we are responding on behalf of the U.S. Public Health Service (PHS). This DEIS has been reviewed by our office at the Centers for Disease Control as well as the Environmental Impact Section, Food and Drug Administration, PHS.

We were pleased to find that this DEIS gives clear and high priority consideration of the impacts of vegetation management methods on human health and safety while thoroughly analyzing the impacts of the project on wildlife, aquatic animals, threatened and endangered species, vegetation, soil, water, air, rights-of-way, visual quality, cultural resources, wildfire, and social and economic conditions. It was especially notable that Human Health and Safety is listed at the top of the list of environmental consequences analyzed for this project (Chapter IV of the DEIS).

The theoretical basis for potential impacts on human health is well documented in the "Human Health Risk Analysis" (Vol. II, Section 5). In our review of this analysis, we noted that the risk assessment effectively analyzes potential risks arising from the proposed application of the herbicides 2,4-D, 2,4-DP, dicamba, fosamine, glyphosate, hexazinone, imazapyr, light fuel oil, limonene, picloram, sulfometuron methyl, tebuthiuron, and triclopyr. Our major concern with the DEIS is the translation of the theoretical predictions of exposure and dose described in the risk assessment to practical work practices which truly reduce (or possibly eliminate) potential exposures in field settings. While we noted that the Forest Service (Vol II, pp. 2-13), proposes adherence to published guidelines for herbicide application, we recommend that the Final Environmental Impact Statement (FEIS) include more detailed specific recommendations for personnel protective equipment (respirators, clothing, etc.) as well as guidelines for proper fit, donning, removal, decontamination, as well as recommendations for the care and storage of this equipment.

Response to Comments in Letter No. 417

From: David E. Clapp

Comment No.

Response

-
- 1 Specific guidelines for personal protective equipment use and maintenance are incorporated in the Forest Service's Health and Safety Handbook, Applicators Certification Training program, and field safety training sessions. Field supervisors provide direction and monitoring in cooperation with the forest and regional health and safety pesticide use coordinators.

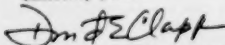
Page 2 - Steve McCorquodale

2 At actual field sites, it is not reasonable to expect workers to make a consistently correct selection and use of protective equipment under physically stressful field conditions. The FEIS should include specific details of proposed management/supervisory practices which are planned to insure compliance with the proper selection and use of personal protective equipment in the field. These field practices should be documented in writing with emphasis on recommendations for controlling exposures to those specific herbicides proposed for use in this project.

3 To orient and reinforce worker understanding of documented exposure control policies, training and reorientation on approved work practices should be offered at the beginning of the herbicide application period and at frequent intervals throughout the application period (including inspections for proper use, wear, contamination, etc.). Demonstration and training should be conducted at actual work sites to reflect representative working conditions. Supervisors should strictly enforce the proper wear and care of personal protective equipment at all times.

Thank you for the opportunity to review this DEIS. We hope that our comments are useful in the practical translation of the theoretical assessment of exposure risks to the actual minimization of exposure at field locations. Please insure that we are on your mailing list for the Final Environmental Impact Statement for this project as well as other documents which are developed under the National Environmental Policy Act (NEPA).

Sincerely yours,



David E. Clapp, Ph.D., P.E., CIH
Environmental Health Scientist
Special Programs Group
Center for Environmental Health
and Injury Control

- 2 This EIS has been prepared as an analytic document rather than an operations handbook. Requirements for the proper selection and use of personal protective equipment is the responsibility of field supervisors (through job hazard analyses and items listed in response number 1 of this letter). Workers are told what protective equipment is required for a particular project.
- 3 See mitigation measure numbers 11 through 15 and number 28 (pages II-61 and II-62 in Draft EIS) which specify certification and personal clothing/hygiene requirements.

Wednesday
February 15

USDA Forest Service
Atlanta, Georgia

1 I am writing to voice my opposition to the US Forest Service plans to increase the use of herbicides on the national forests in the Appalachian Mountains. Removing unwanted vegetation manually or mechanically are better options. Herbicides poison the environment and there's too much of that kind of poison in our environment already.

Sincerely,
Don H. Swage

Response to Comments in Letter No. 418

From: Ann H. Savage

Comment No.

Response

- 1 Your concern about increased use of herbicides has been included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

14 February, 1989
1191 Hannan Branch Road
Burnsville, N.C. 28714

USDA Forest Service
1720 Peachtree Road
Atlanta, GA 30367

Draft AM
Attention Rm. 3625

Dear Mr. Steve McCorquodale

This letter is in reply to your request for review and comment on the USFS draft environmental impact statement: Vegetation Management in the Appalachian Mountains, Vol. I, II. Much of the South Toe River valley where I live is surrounded by lands of the Pisgah National Forest, so I speak as a neighbor, a forest user and woodworker, a conservationist, and a long time and chastened user of herbicides (Niering and Goodwin, 1963).

- 1 Briefly I urge you to change your preferred management alternative to B which will adequately achieve resource objectives without hazardous aerial herbicide spraying, but with selective application of ground chemicals at intensities modest enough to reduce admitted (see Vol. I, IV-II) unknown chronic or long term effects on people and plants and soils.

- 2 The risks of manual or mechanical methods and fire to manage vegetation are well known and acceptable. For myself, my family, and many of my neighbors, increased USFS use of the excessive (14) list of herbicides is too hazardous to be acceptable.

- 3 I strongly disagree with the USFS position in Vol. I, page x that "all herbicides and additives investigated are safe... (emphasis added)" Safe means zero risk to health and life. Take 24D, for example. Although modest there are measurable risks of injury from acute or chronic exposures of applicators and definite risks to berry pickers, other forest users, and neighbors from drift or polluted water. Our community, after having studied the matter a decade ago, found these often unavoidable risks unacceptable and therefore we banned the use of 24D. What is really stopping you from doing the same?

- 4 I urge you to reconsider your tolerance level for known or unexpected hazards from herbicide use: (1) reduce the kinds of chemicals you use to the slightly toxic ones, (2) reduce the amount of chemicals you use to the level called for in Alternative B, and (3) don't forget to let the forest comment on what we do and pay attention. For example witness the effects of acid rain and heavy metals on the Spruce-Fir Forest.

- 5 Regarding your scient-ific analysis, unfortunately I found it uneven in quality; really more of a summary of the literature than a synthesis. Vol. II is a serious and almost adequate analysis of the known effects and consequences of the use of herbicides and fire on the forest, wildlife, endangered species, and humans. But neither volume has a thorough discussion of

Response to Comments in Letter No. 419

From: Kenneth V. Harvey

Comment No.

Response

- 1 Your preference for alternative B was included in the content analysis of all comments received.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

- 2 The 11 herbicides evaluated were selected, for a variety of reasons, from 108 which were initially considered. Through mitigation number 7 (page II-59 of the Draft EIS) we further reduce the list to 8 least-risk herbicides within the chapter II mitigation framework. The documented health risk from use of this very small selection of herbicides is lower than any other category of tool except for mechanical tools. With the numerous mitigation measures required, pages II-44-66 of the Draft EIS, such as lower application rates, more selective techniques, and wider buffers, the risk of adverse effects will be minimal, much less than current. Please see a comparison of alternatives at the end of chapter II.

- 3 See response to comments in Letter No. 289, Comment No. 1.

- 4 In the Final EIS, class B and C herbicides listed on pages II-42 of the Draft EIS require Regional Forester approval prior to use. Therefore, only the least-risk herbicides will be used.

Evidence in the EIS indicates that low risk use of these herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 5 The specific information you suggested is very appropriate for a site-specific project. Effects from each method on the various environmental elements are discussed in chapter IV. Source data from references listed on pages VIII-1-33 contain specific information used to describe environmental effects in a general way. Some of these contain specific information concerning the points raised. See Final EIS section I.B for a discussion of proper treatments for various purposes.

actual mortality rates for competing vegetation and subsequent forest stand characteristics resulting from particular manual, mechanical, chemical, or fire treatments. I request that you include this information in your final environmental impact statement. Your discussion of grapevine control approaches (W 1, IV-57; what I missed elsewhere. If you want to eliminate yellow poplar or red maple from mesic sites below 3,500 feet altitude to allow stocking of a stand with red oak, your in-house data and analysis indicate how you would go about doing this with various methods and their consequences. This is basic vegetation management data needed to achieve the desired impact that realizes the planned resource objectives.

Your discussion of margin of safety is misleading and I wonder if subsequent estimates of MOS are accurate. Margin of safety is a sanitized name for risk probability: is a measure of the likelihood of injury or death. In cases where there appears to be good data indicating a maximum no effect dose

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For an animal, the extrapolated no effect dose for humans is generally regarded as 1/10 the animal dose. In addition because of human variation, a further reduction of 1/10 is considered the threshold dose for all humans. Thus a threshold effect dose for animals is reduced to 1/100-th the amount of the animal NOEL (maximum) dose. It is my contention, then, that where your example of an animal NOEL of 100 mg/kg/day yields a margin of safety of 100 for a human dose of 1 mg/kg/day, the actual margin of safety is 1. Of course prudence would suggest even an MOS of 100 is too low (unacceptable) as evidenced by the extremely high toxicity of compounds like dioxin.

In closing I would like to commend the Forest Service for a good beginning in your analysis of the consequences and risks of various methods of vegetation management. I was impressed with the seriousness of your effort to minimize risks as long as the costs could be contained. Quite often we choose the least cost alternative only to regret later those consequences a little more effort, expense, and vision could have avoided. Though buried in your work I applaud your willingness to make dangers obvious by notifying neighbors, forest users, and so forth by posting herbicide areas. This agrees fully with one of John W. Wades seven criteria reducing a products risk to a reasonable level (Lowrance, 1976):

THE DANGER SHOULD BE OBVIOUS.

Sincerely,

Kenneth V. Harvey
Kenneth V. Harvey

Niering, W.A. and Goodwin, R.H. CREATING NEW LANDSCAPES WITH HERBICIDES, Connecticut College Arboretum Bulletin No. 4, New London, Connecticut, 31 p. 1963

Lowrance, W.W. OF ACCEPTABLE RISK, Kaufmann Inc., One First Street, Los Altos, CA 94022 180 p., 1976

6

The interpretation of MOS used in the Risk Assessment and EIS is a standard toxicology definition. Your redefinition does not meet these standards. MOS is defined as based on animal NOEL data. With respect to dioxins, please see recent scientific information cited in response to comments in Letter No. 169, Comment No. 2.

Comments on Scientific Analysis:

The scientific analysis may be adequate, but its merits cannot be judged from the summary which gives a very glossy, simplistic image of the larger document.

- 1 For example: "All herbicides and additives investigated are safe for the public when applied using typical rates and methods" p. X is opposed to the original document "human toxicity data are lacking," or "oncogenicity data is unavailable for (list of chemicals)" or "mutagenicity data are generally incomplete or inconclusive." Are you giving the public (in the summary) the total scientific picture when you recommend herbicide use be 34.3% of your management tools?

- 2 On the economic front your plan "D" "has the greatest advantage because their direct costs are among the lowest." Yet your Atlanta office confirms that chemical methods are a bit more expensive than manual or mechanical. I don't believe you have given us an accurate scientific presentation of the economics of herbicides so how are we to judge your scientific analysis.

Comments on Alternatives:

There is too much emphasis (82.7%) on herbicide usage and prescribed burning in alternative D. I would propose an alternative that would be between

Response to Comments in Letter No. 420

From: Douglass E. Rankin

Comment No.

Response

- 1 The summary is just a "snapshot" of information contained in the EIS and appendices. The analysis does, however, support increased use of class A herbicides (table II-1) based on the absence of significant adverse effects.
- 2 The economic analysis presented in the Draft EIS is, for the most part, qualitative. Table IV-18 clearly discloses that per acre costs of herbicides are higher than manual but lower than mechanical on an average. However, discussions in chapter IV, part C, include effectiveness of different treatment methods, which tends to offset some of the lower initial costs of manual methods due to the need for re-treatment.

alternative F. & G. and would be used on approximately 2% of the National Forest.

GRAZING	2%
BURNING	10%
HERBICIDE	5%
MANUAL	60%
MECHANICAL	23%

- 3 No alternative which you suggest responds to my concern about fire and herbicides. With my percentage of alternatives you could use herbicides in areas that were difficult for manual or mechanical, and burning for small specific clean up uses. Manual would be the biggest management tool - sweat is a far less dangerous ingredient to add to the acknowledgedly troubled planet than herbicides and fire.

- 4 I also believe that when you get the responses to this summary you will discover that D does not have the greatest advantage because public acceptance becomes positive "p. III

OTHER COMMENTS:

This document is a clear representation of what the US Forest Service has become more intensely each year - a "company" trying to sell the public something it does not want. Consider the continuing furor raised by your forced emphasis on clearcutting as the primary

- 3 Your preference for an alternative somewhere between F and G was included in the content analysis of all comments received. An alternative somewhat like your preference (Modified E) is analyzed in detail in Final EIS sections II.B and IV.N.
- 4 Not every aspect will elicit a positive response, however, over time public acceptance is predicted to move in a positive rather than a negative direction as the lack of adverse impact is confirmed by monitoring and further study.

harvest method.

- 5 Will your alternative actually satisfy people who "fear that herbicides have serious effects on human health, ... drinking water... non-target species."? Does it reassure people who have seen prescribed burning turn into hurricanes in the forest? Even those who view herbicides as "essential for economic treatment of certain areas," will they be satisfied by a treatment that costs more than manual or mechanical when used in $\frac{1}{3}$ of the situations as your management tool?

The cover says it all. You know what people want - a pastoral grazing scene, management by low impact manual means and a clean, undisturbed vista. But on the cover you have considered only 27.8% of the methods you propose to use. Why not picture a yard full of discarded contaminated chemical drums and a wild ~~flower~~ fire burning out of control or a scorched and blackened piece of recently burned forest - 82.7% of the methods you propose!

Why don't you give up on trying to foist your views on people and when you ask for public comment - listen.

Doyle R. R.

DOUGLASS E. RANKIN
RT. 2 BOX 235
BAKERSVILLE, NC 28705

The obligation of the Forest Service is to evaluate and understand everyone's position and to balance its response to those positions with scientific analysis and disclosure. This has been done in this EIS.

We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

Escaped prescribed fires have had little impact on Appalachian national forests (section IV.1).

2-15-89

To Whom It Concerns,

This letter is to inform you that the use of herbicides in our WNC forests breaks my heart. Please don't expand, please stop this practice.

You have no way to judge how many people, animals, and flora you kill by this practice. Perhaps that makes it easier to condone.

I have lost 2 close friends to cancer in the past couple of months. Several other people

Response to Comments in Letter No. 422

From: Mary L. Johnson

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

In the Final EIS Class B and C herbicides can not be used without the Regional Forester's approval. Please see mitigation number 3 for herbicide method in chapter II.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

I know have just been
 diagnosed with cancer. It was
 like this in my community
 I grew up in Saginaw, Mi.

Please - let nature be
natural. Give our world
 a chance!

Thank You.

Mary L. Johnson
 14 Hemlock Rd.
 Asheville, N.C.
 28803

I'm sure there are thousands more people
who didn't sign a petition who wish they had kno

02/15/89

- Please, please do not increase the use of
- 1 herbicides and pesticides. Our fragile environment is already over polluted by these poisonous chemicals.

- 2 Use mechanical controls - furnish jobs, helping both the unemployed and at the same time be kind to our environment.

Reduce the present level of chemical use.

Norma F. Hall

Norma F. Hall
46 Linhurst Road
Rahway, N. J. 08065

Response to Comments in Letter No. 423

From: Norma F. Hall

Comment No.

Response

- 1 Your concern about the use of herbicides has been included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

- 2 See response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3. The same information applies to mechanical tools.

ROBERT W. CLARK
ATTORNEY
302 S YORK STREET
GASTONIA, NORTH CAROLINA 28054
~~(704) 864-6516~~

3 Luckhart Lane
Swannanoa, NC 28778

February 15, 1989

Re: Vegetation Management Plan

Dear Sir or Ms.:

1 NO to widespread herbicidal use. Your explanation is to trade workers safety for environmental damage. I have worked with chain saws, power tools and the like for 20+ years. Properly trained workers will not be exposed to more than minimal risks.

your agency is trying to take the "easy" way out - dump chemicals and move on. Much cheaper than employing trained workers. Our personal and environmental health has been damaged badly by similar decisions. NO to the herbicides.

yours,

Bob and Elizabeth Clark

Response to Comments in Letter No. 424

From: Bob & Elizabeth Clark

Comment No.

Response

- 1 In the safety section of chapter IV (pages IV-26 through IV-31, Draft EIS) risks to workers in a supervised, safety oriented program are presented. Despite safety training, these accidents do occur and are often serious.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Rt 2, Box 376
Asheville, NC 28805
Feb. 14, 1989

Vegetation Management Team
USDA Forest Service
Room 362 South
1720 Peachtree Road NW
Atlanta, Georgia 30367-9102

Dear Friends,

We are now living in an era of
global protection where our first concern
should always be the preservation of the
balances of nature. In view of this
responsibility, of today's problems of
pollution and neglect of the natural
1 environment, I am opposed to the use
of chemical herbicides in our National
Forests. Of your plans, Alternative F
comes the closest to what I would favor.
2 ~~However~~, I am also opposed to such
a large amount of burning when manual
and mechanical methods would do just
as well. Further, I believe that only
3 1 1/2 to 2 % of the forests should be
treated annually. I favor a breakdown
4 as follows; 0% Herbicide, 8% Prescribed Fire,
45% Manual, 45% Mechanical, 2% Grazing.
Thank you. Sincerely,
Helen E. Jorns

Response to Comments in Letter No. 425

From: Helen E. Toms

Comment No.

Response

- 1 Your opposition to herbicide use and your preference for alternative F have been included in the content analysis of all comments received. Please see response to comments in Letter No. 522, Comment No. 1.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

- 2 Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be mowed or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Rt 2, Box 376
Asheville, NC 28305

Feb. 14, 1989

Vegetation Management Team
USDA Forest Service
Room 362 South
1720 Peachtree Road NW
Atlanta, Georgia 30367-9102

Dear Friends,

We are now living in an era of global protection where our first concern should always be the preservation of the balances of nature. In view of this responsibility, of today's problems of pollution and neglect of the natural

- 1 environment, I am opposed to the use of chemical herbicides in our National Forests. Of your plans, Alternative F comes the closest to what I would favor.
- 2 However, I am also opposed to such a large amount of burning when manual and mechanical methods would do just as well. Further, I believe that only
- 3 1 1/2 to 2 % of the forests should be treated annually. I favor a breakdown
- 4 as follows; 0% Herbicide, 8% Prescribed Fire, 45% Manual, 45% Mechanical, 2% Grazing.

Thank you. Sincerely,

Helen E. Jorns

Response to Comments in Letter No. 425

From: Helen E. Toms

Comment No.

Response

- 1 Your opposition to herbicide use and your preference for alternative F have been included in the content analysis of all comments received. Please see response to comments in Letter No. 522, Comment No. 1.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

- 2 Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be mowed or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Appalachians. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-121 to IV-122).

- 3 In the preferred alternative, approximately 3 percent of the total forest land is proposed for treatment each year. This amount also includes treatments such as roadsides and utility rights-of-way that are outside the general forest area.
- 4 Please see response to comments in Letter No. 166, Comment No. 3.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I read a synopsis of the Draft Environmental Impact Statement and received information in this manner.

Why?

Comments on Alternatives:

1 The alternative chosen is not suitable and does not reflect what was originally recommended. The ideal alternative would be Alternative P, with more mechanical and manual and less fire.

Why?

/This alternative would provide minimum danger to human, animals and the environment.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Patricia Bernard Mutter

Name: First MI Last (Organization)
210 Lower Burnintown Road

Street
Franklin NC 28734

City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 426

From: Patricia Barnard Hubbs

Comment No.

Response

- 1 Your preference for alternative F was included in the content analysis of all comments received. Please also see response to comments in Letter No. 44, Comment No. 1; Letter No. 53, Comment No. 2; and Letter No. 522, Comment No. 1.

Mechanical and manual methods are very critical to our vegetation management programs (see description of method breakdown by activity for each alternative in chapter II of the Draft EIS). To help clarify the relationships of tools to activities, we have added a section to chapter I of the Final EIS.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Tear at perforation

RESPONSE FORM

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Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

NOTE: The term Vegetation Management is alternative to VM throughout.

Comments on Scientific Analysis:

The Draft contains a wealth of scientific results and analysis, directly relating to the various aspects of VM. The data gaps you point out will persist long into the future. At some point down the line, the law of diminishing returns must come into play. On the ground forest management doesn't lend itself to fly-specking. Meanwhile the crucial work of VM must proceed. I've always been a strong advocate of proceeding with forest management activities, based on the best available and meaningful research results at hand. Absent such results, you refer to your own experience and

Why? analysis to guide you in the right direction until research comes up with usable results which may indicate a change in direction is advisable. In my own personal experience in NF management work, I can't recall any great catastrophic happenings to the environment as a result of past VM activities on the Mountain NF. Besides the charcoal blight, explosive timber burning, unchecked wild fires and copper smelting operations etc., the impact of VM activities pales into insignificance. The vitriolic responses you outline only serve to further dilute any undesirable environmental impacts on these NFs. I fully endorse your proposal to proceed with via VM program, despite data gaps.

Comments on Alternatives:

You have my unqualified support in your selection of Alternative D as the preferred choice. Reasons for my support include:

- (1) Maintains maximum flexibility as to approved types of VM treatments
- (2) Takes full advantage of the environmental benefits of herbicides with their lesser impact on environmental quality and their relative safety to the workers who use them.
- (3) Permits judicious use of prescribed fire under carefully controlled conditions
- (4) Doesn't excessively favor one treatment or subjective over another, is maintenance good balance between methods.
- (5) Gives realistic insight to treatment cost differences.
- (6) Maintains adequate average treatment levels by the NF Plan.

Why? I reject Alt. A as an unacceptable alternative on NF lands in the GFA (These are not Nat. Parks). Alt. B is too restrictive. It relegates TSS needs to an insignificant level, and thereby reduces the RSM Plan average objectives.

Other: I would favor Alt. C as a high-order D; but still prefer the latter. Alt. B relies too heavily on costly manual and mechanical methods. Alt. D is out of herbicides and is too restrictive; takes away necessary flexibility from Forest managers.

Alt. D with its maximum VM control via herbicide use, could create major PR problems over time.

Important points to get across to the general public and the EPA include the following:

- VM has been in progress on these Mountain NFs for over 35 years now with nothing seriously approaching catastrophic effect on the environment. Though in isolated areas some undesirable impacts have occurred over time (charcoal blight, charcoal burners, NF managers have demonstrated superior expertise in the field of VM, and continue to do so).
- VM is a vital forest quality control activity, without it, the long-term quality upgrading of the forest cover on these lands would not be possible.
- There is no way vegetation treatments can be conducted on forested lands without some temporary adverse environmental effects. But the long-term benefits resulting from these treatments must be maximized.
- The fact that VM activities are conducted on relatively small areas, well dispersed throughout the GFA and infrequently performed on the same area, is one of their major strengths. Environmental specialists still approving even past decades of such work -- but that the environment and the economy are healthier.
- By limiting the direct resources on the NFs one is to be managed only -- but prevent in "downside" -- the worst case of all the people. In the GFA, VM is a long activity in the ongoing process!

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Richard H. Miller USFS (Ret. '73)

Name First MI Last (Organization)

9010 Hickory Hill Ln.

Street

Huntville AL 35892

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 427

From: Richard H. Millar

Comment No.

Response

1 Your comments are noted.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

We are very concerned about the use of herbicides and the effect on the environment. They should be used with extreme caution. We would like to recommend Plan B for the Forest Service program because it limits the use of herbicides and used manual cutting.

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address label and drop in the mail (no postage necessary).

William C. Johnson David N. Johnson
 Name First Last (Organization)
99 Hannah Br. Rd.
 Street
Winston-Salem, NC 28714
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 428

From: Gilbert C. & Joyce D. Johnson

Comment No.

Response

- 1 Your preference for alternative B and your opposition to herbicide use have been included in the content analysis of all comments received. Please see response to comments in Letter No. 261, Comment No. 2.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

← Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

Why?

Comments on Alternatives:

Why?

Other: I especially like the proposed program to enhance the visual quality along right of way corridors.

While I have the opportunity, THANKS for all the messages that are available from Wofley and Wofley for environmental education. I use them often with our 4th grade program.

Why? I am concerned about the litter problem on the right of way corridors. An emphasis on visual quality promoting flower vegetation will show a PRIDE for the right of way corridors.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Elizabeth A. Cornelius ~~US Forest Service~~

Name: First MI Last (Organization)

112 A West Hill Street

Street

Danbury, CT

06833

City

State

Zip Code

← Tear at perforation

Response to Comments in Letter No. 429

From: Elizabeth H. Cornelius

Comment No.

Response

- | Comment No. | Response |
|-------------|---|
| 1 | We appreciate your support and concern over litter problems along our highways. |

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

1 Comments on Alternatives: I prefer Alternative D --

It appears to fulfill USFS mandate (Multiple-Use) with least adverse results and greatest values for all peoples.

Balance of Resources: Conform to multiple-use policy as closely as topographic, soil and normal climatic conditions will permit.

Prescribed Fire: Necessary - exercise care and with full knowledge of all up-to-date research.

Herbicides and Mechanical Treatment: Combine with manual and mechanical measures to assure needed area employment, satisfactory results, reasonable over-all costs, and minimal adverse environmental effects.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Charles E. Page, Jr. & Associates, Inc.

Name First MI Last (Organization)
913 S. Harris Lane

Street
Chattanooga, TN 37412

City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 430

From: Charles R. Pag, Jr. & Associates, Inc.

Comment No.

Response

- 1 Your preference for alternative D was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

- 1 I support Alternative B in conjunction
 Why? with major reductions in timber cutting.
 The beautiful hardwood forests especially
 2 climax oldgrowth forests are disappearing

Comments on Alternatives:

- or already gone. The management people
 are doing too much of the wrong thing.
 Why? Yes some management is desirable especially
 in view of all the logging which ^{has} already
 Other: occurred.

- Why? Your reports are quite thorough although I believe
 there is too much "description of description!"

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Ray McClure

Name: First Last (Organization)

St. 2 Box 159 B

Street Tellico Plains TN 37585

City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 431

From: Ray McClure

Comment No.

Response

- 1 Your preference for alternative B was included in the content analysis of all comments received. Please also see response to comments in Letter No. 261, Comment No. 2.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.
- 2 The issue of timber harvest (site selection and silvicultural method) is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest. Please see page I-3 of the Draft EIS for a description of activities addressed.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: The analysis addresses most of the issues in enough depth to be meaningful. However, analyses are often overlapping and alternatives are not clear as to the objectives Why? intended to achieve, in some cases.

2 Comments on Alternatives: Alternative B is the preferred alternative, whereby disturbance is minimized, herbicides are restricted to manual application and minimized, fire and mechanical control can still be used when needed.

3 Other: In general, control of vegetation should be minimized and when necessary should be mechanical, manual or prescribed fire. Buds, however should be kept open when sensitive or rare species are threatened. Rare species also often occur under power lines and other disturbed locations. These should be carefully monitored and managed for protection. (see additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

DENNIS D. HORN

Name: First MI Last (Organization)

222 CRESTWOOD DR

Street

TULLAHOMA, TN 37388

City

State

Zip Code

← Tear at perforation

Response to Comments in Letter No. 432

From: Dennis D. Horn

Comment No.

Response

1 Overlap in analysis is likely due to two factors: elements of the environment which are discussed are intricately interrelated, and the format for environmental documents (40 CFR 1502.10) requires some redundancy. Chapter I, part A, tells why we do vegetation management, and chapter II, part A, tells how alternatives are constrained.

2 Your preference for alternative B was included in the content analysis of all comments received. Also please refer to response to comments in Letter No. 261, Comment No. 2.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

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3 A section has been added to chapter I that clarifies relationship of tools to various forest activities. Management requirements 1-4, pages II-44-II-46 describe the process of selecting the appropriate strategy and subsequent method for treatment for site specific projects. This also includes biological evaluation requirements to protect threatened, endangered, proposed, and sensitive species.

← Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

As an average citizen I would not presume to tell the Forest Service its business, but I am

Why? happy to have an opportunity to express my opinion. I felt very strongly that the way the fire last summer in Yellowstone was a

Comments on Alternatives:

disgrace, and feel the disaster could have been averted had the fire been stopped early on.

Why? With our deficit we now have to rebuild unnecessarily the beautiful homes and park areas. There was no reasonable explanation

Other: for letting the fire get out of hand except mishandling by your so-called experts -

Why?

In general I am against burning and herbicides -

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

AGNES JONES

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1665 S. PINE KNOLL
 Street
MACON, GA 31204
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 433

From: Agnes Jones, Macon, GA

Comment No.

Response

- 1 A major reason that large wildfires occur is due to large fuel accumulations. In the Southern Region, we treat these accumulations by using prescribed fire every 4-6 years which reduces the risk of large conflagrations like that which occurred at Yellowstone. We might add that Yellowstone is not administered by the USDA Forest Service.

Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be mowed or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: *Extremely well done and possibly too much emphasis was put into the Scientific Analysis.*

- 1 Why? *It made the report too long and technical and hard to read for me - a member of the "general public."*

Comments on Alternatives: *I prefer alternative "E" because: 1) less sediment produced 2) less herbicide pollution risk 3) minimal need to aquatic life 4) less air pollution than many other alternatives 5) low risk of long term productivity loss 6) high percentage (93%) of vegetation management*

- 2 Why? *activities are not timber outputs 7) no sexual herbicide application are allowed 8) higher than current employment opportunities and 9) lower overall mineral effects 7) sediments - a plus in some waters*

Other: *Timber harvest and 8 in Tennessee*

- 3 Why? *I would prefer more money allocated to alternative E realizing that this alternative has the highest cost per acre but that it also could increase employment both through actual vegetation management activities and increased timber outputs in the future.*

(use additional sheets as necessary)

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Richard P. Thornton - WNC Pollut. Co.

Name: First MI Last (Organization)

PO Box 38

Street:

Candler NC 28715

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 434

From: Richard P. Thornton

Comment No.

Response

1 The interdisciplinary team views its writing assignment as equal in importance to the analysis. Good communications is a top priority. While many reviewers commented that this very complex technical subject has been handled very well, some may still find it overly complex. The summaries on pages iii through xvi of the Draft EIS attempt to address this problem.

2 Your preference for alternative E was included in the content analysis of all comments received. Also see response to comments in Letter No. 281, Comment No. 7.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be mowed or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Appalachians. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-121 to IV-122).

- 3 Allocating more money to alternative E would either cause over-treatment or exceed Forest Plan output requirements. See response to comments in Letter No. 408, Comment No. 10, regarding employment.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: ALL HERBICIDES AND BIOLOGICAL METHODS SHOULD BE FULLY LAB-TESTED FOR ALL POSSIBLE INTERACTIONS WITH NON-TARGET ORGANISMS AS WELL AS TARGET ORGANISMS.

Why?

2 Comments on Alternatives: GENERAL SUPPORT FOR ALTERNATIVE D PROVIDED: (1) PRESCRIBED FIRE IS SEVERELY RESTRICTED; (2) HERBICIDES ARE FULLY TESTED FOR IMPACTS ON NON-TARGET ORGANISMS; (3) BIOLOGICAL METHODS ARE RESTRICTED TO LIVESTOCK.

Why? RESPECTIVELY: (1) CONSIDERABLE LACK OF PRECIPITATION REGIONALLY FOR PREVIOUS 2 YEARS (EXPECTED TO CONTINUE). (2) TO PREVENT ONSET OF ADDITIONAL PROBLEMS.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

TIMOTHY C. BEARD ROANoke CO PLANNING
 Name: First MI Last (Organization)
 2722 BRAMBLETON AVE SW
 Street
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 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 435

From: Timothy C. Beard

Comment No.

Response

- 1 We agree in principle, but the real costs for all possible tests for even one product or biological strategy would be astronomical. The "conservative" nature of the analysis for herbicides was adequate to form a basis for realistic modeling. We are currently participating in an exposure test for three herbicides using current techniques.
- 2 Your preference for alternative D, and your concerns, were included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be mowed or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: This analysis appears to be based on many appropriate resources and to be done in a thorough manner. I am especially interested in effects on wildlife and humans by the use of herbicides, but the analysis shows minimal effects but indicates this should be why?

1 I am concerned because in the past it has been shown that the use of chemicals caused grave environmental damage, i.e., DDT.

Comments on Alternatives: I am somewhat undecided between favoring the two alternatives, D and E. They both have the most balanced mix of low to moderate disturbance tools and they both use herbicide and application methods that pose minimum risk to environment and humans and wild life (a concern of mine as I have stated above), which are important factors.

2 Why? However, I do not like the use of aerial spraying in Alternative D, as there will occur some drifting and possible damage to water systems.

Other: I am not familiar enough with the use of prescribed burning to evaluate this method, but your analysis does show many benefits to be gained. Have these burnings often gotten out of control?

Why? I have not been aware of any use of fire in the area of the mountains I am especially interested in. The owl property (60 acres) in the midst of the George Washington Forest in Western Virginia.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Russ G. Hazard (Individual)
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 Street
Bethesda, MD 20816
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 436

From: Ann G. Hazzard

Comment No.	Response
1	Our awareness and concern about the historical record, both public and scientific, is one of the major reasons for preparing this EIS. As you have read in the EIS. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
2	Your reserved support for alternatives D and E was included in the content analysis of all comments received. See response to comments in Letter No. 281, Comment No. 7.

ADDITIONAL COMMENTS:

- 3 Besides concerns about methods used in the entire region, I and my family have special concerns regarding our 60 acres we own near Staunton, VA with the George Washington Forest surrounding us, and how the treatments used will affect our private property. We have a well not too far from the GW Forest boundary line and even though it is stated in this study that barriers protecting water systems will be used, we do have a real concern about our water being damaged by herbicide spraying.
- 4 We are also concerned about possible drift of herbicides sprayed from the air when we are on our property and how our health might be affected. I have not yet researched how close gas and power lines are to us; possibly the spraying would not be close enough to affect us.
- 5 I do not know how feasible it is for the personnel to locate pockets of privately owned property in the forests and to avoid spraying these areas.
- I am familiar with the "clear-cut" method used in some areas as it was done near our property and I liked the way it opened up vistas.

Thank you for keeping concerned individuals informed regarding your plans.

Sincerely,

Ann G. Hazzard

Ann G. Hazzard

- 3 Choice of tools and specific areas to be treated is controlled by the Forest Plan developed for the George Washington National Forest. This document (available from the Supervisor's Office, P. O. Box 233, Harrison Plaza, Harrisonburg, VA 22801) will give more useful information concerning the proposed use of the tools discussed in this Vegetation Management EIS.
- 4 Using the technology required in mitigation measure number 27 (page II-64 of the Draft EIS) and applying only in weather conditions specified in measure number 16 (page II-62 Draft EIS) while following all other applicable mitigation measures, poses virtually no possibility of offsite drift of herbicides.
- 5 Forest maps are very specific as to ownership. Emphasis on selective application methods should add further protection for private landholders.

Tear at perforation

RESPONSE FORM

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However you decide to respond, please help us by making specific and meaningful comments.

Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I have tried to study this EIS carefully. After spending several hours with it, I am ready to throw up my hands and scream.

- 1 Why? I feel it does not adequately address concerns that relate to non-game wildlife and non-marketable plants. Those organisms have a vital role in the interdependence and therefore the existence of the ecosystem.

Comments on Alternatives:

- 2 The more I consider them the more I favor "A".

"C" and "H" are very unacceptable to me.

"B" could be tolerated; "D" could be acceptable if not abused by Forest Service.

Why?

"A" would allow natural succession.

"C" and "H" include objectionable use of mechanical tools.

- 3 Other: I feel this represents an (another) effort of the Forest Service to raise a crop of trees with inadequate concern for the total forest environment. I wish the Forest Service would give first priority to maintaining the forest (as forest) and let supply of timber determine demand rather than letting demand determine supply and therefore turn forests in to tree farms. I question other uses — recreation, wildlife habitat and such — enduring long in the future in a forest altered by prescribed fire, herbicides and much mechanical treatment. I know burned areas provide habitat for some species to thrive but I still question some burning a general principle.

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Thanks for letting me express myself. My husband and I still really enjoy visiting Mt. Rainier National Recreation Area!
C. Umholtz
2-13-88

Charlotte L. Umholtz (Mrs. John L.)

Name	First	Mi	Last	(Organization)
Route	1		Box	395
Street				
City	Rapahine, VA	State	24472	Zip Code

Response to Comments in Letter No. 437

From: Charlotte L. Umboltz

Comment No.

Response

- 1 Effects of vegetation management are discussed in chapter IV. Where available, research on nongame animals and noncommercial plant species is cited. Game species are often used as examples throughout since these species are important to a large segment of the public and more research exists on these species.
- 2 Your preference for alternative A was included in the content analysis of all comments received. Please see response to comments in Letter No. 266.
- 3 Each of the alternatives described on pages II-4 through II-19 includes a table which exhibits the number of acres proposed for treatment by method, by program. The only programs directly related to timber production are site preparation-pine, site preparation-hardwood, TSI-pine, and TSI-hardwood, and in every alternative these programs represent less than half of total treatments. We believe this indicates a conscious effort by the Forest Service to manage all resources including timber.

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RESPONSE FORM

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Comments on Scientific Analysis: *Generally adequate.*

Why?

- 1 Comments on Alternatives: *I consider only Alternatives A, B and E to be acceptable. They preclude or minimize the use of herbicides and prescribed fire.*

- 2 Why? *The Appalachian Mountain National Forests are among the few areas in the Southeast where surface and groundwater resources are still relatively uncontaminated by herbicides and pesticides. They should be preserved as freshwater reserves for major metropolitan centers, such as Birmingham. Other: Also, these mountain forests are largely unsuitable as pine plantations, and should not be managed as such. Water quality, air quality (not needless burning) wildlife, and recreation for our rapidly expanding population. Why? should receive far more emphasis than at present.*

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

NORMAN R. ELSNER

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3404 DOUGLAS ROAD

Street

TUSCUMBIA, AL 35674

City

State

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← Tear at perforation

Response to Comments in Letter No. 438

From: Norman R. Elsner

Comment No.

Response

- 1 Your acceptance of alternatives A, B, and E was included in the content analysis of all comments received. Also see response to comments in Letter No. 261, Comment No. 2; Letter No. 266; and Letter No. 281, Comment No. 7.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be moved or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

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Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Appalachians. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-121 to IV-122).

- 2 The issues of tool allocation to a specific project (herbicide vs. manual vs. mechanical, etc.), wildlife management programs, and the forests' recreation programs are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest. However, evidence in this EIS indicates that significant ground water contamination is unlikely when tools are properly allocated to projects within the mitigation framework presented in chapter II.

Year at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

See attached specific comments which are meant to refer to specific areas/topics that require clarification. They may be covered but overlooked in my review.

Why?

Comments on Alternatives:

Adequate.

Why?

Other:

See comments attached. The EIS for Vegetation Management is one of the most important concepts we can be involved in. It provides effects on everything from the base water (aquifer) to the ozone layer. The EIS should be current, futuristic and inclusive of all living things.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Terrell C. Frewitt

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2009 Cloys Ave.

Street

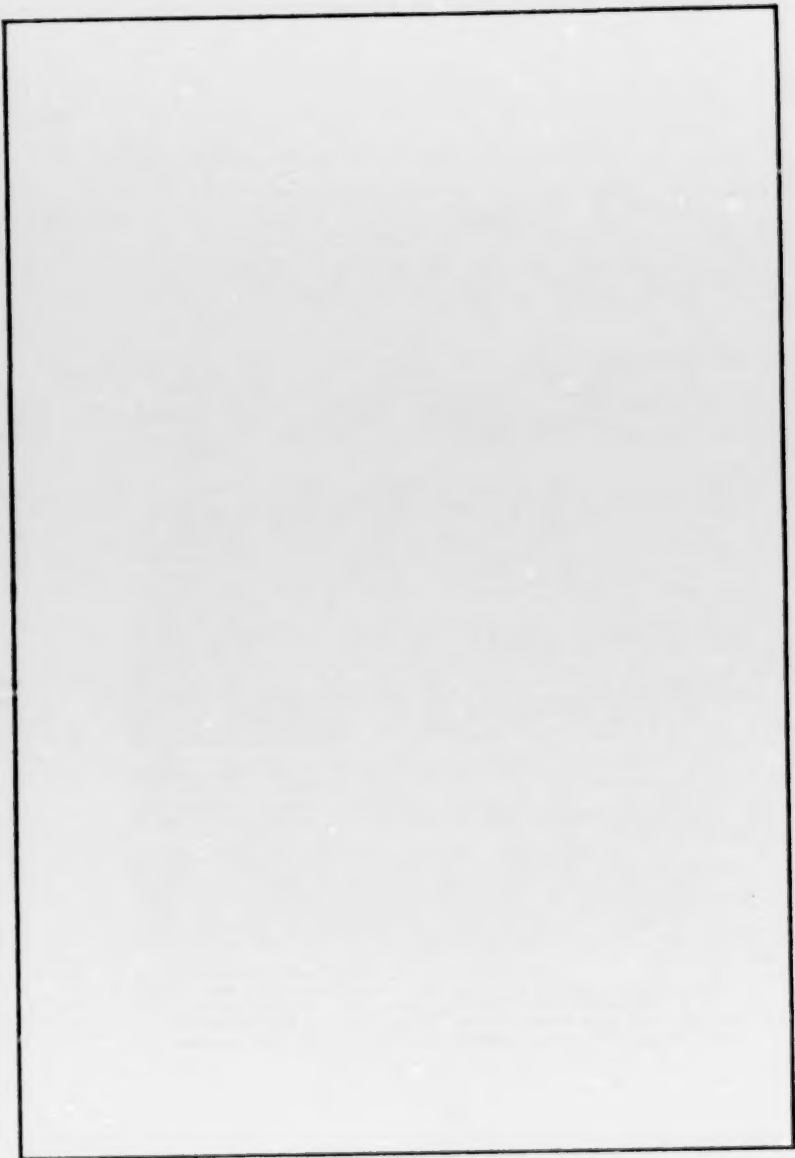
Huntsville, AL 35811

City

State

Zip Code

Year at perforation



SPECIFIC COMMENTS TO DRAFT ENVIRONMENTAL IMPACT STATEMENT

The following items are provided for your evaluation as to whether they could and/or should be, or are already covered in your DEIS. These are more or less common, all purpose, items and are as follows:

1. The map on page 1 is not clear.
 - a. Enclose each area on all four sides with a heavy dark line.
 - b. Use a dotted line across areas to indicate northern and southern areas.
 - c. Enlarge map to show entirety of all 3 areas.
 - d. Identify U.S. Management teams for each of the three areas.
2. Identify and line out on the map (or use another map) to show the entire area of the cotton belt of the U.S.. This belt has been said to be an area 150 to 200 miles wide (north and south) and stretching from the Carolinas thru Arizona. Identify type of spray and decay rate. Reason: a spray program has been in effect for a couple of years to eradicate the boll weevil in this belt. People should be alerted and aware of such programs and the times of year.
3. If area 3 extends to the shore line of the Atlantic or the gulf, identify. Reason: To identify vegetation planted for control of shore line erosion.
4. Identify wildlife areas by use of a special map. Reason: To identify vegetation and/or grasses, feed stock etc. planted for wildlife, ie deer quail, turkeys, waterfowl etc.
5. Identify laws and penalties regarding care of the land, specifically:
 - a. Starting fires.
 - b. Illegal use of jeeps, motorcycles, and two, three and four wheelers.
 - c. Illegal cutting of trees.
 - d. Dumping of trash, chemical waste, discarded vehicles and anything else that would create a waste dump area.
 - e. Overgrazing.
6. Provide laws to prohibit introduction of exotic species to any of the three areas, such as African bees, fire ants, walking catfish etc.
7. Use President Carter's Executive Order 11987 dated May 24, 1977 as the basic law to prohibit entrance of exotic species to the areas.
8. Identify fishing and hunting laws and seasons for the areas and bag limits.
- 2 9. Identify endangered species that live in the area both permanently and seasonally.
10. Reforestation Programs.
 - a. There does not appear to be reforestation programs of various hardwoods.
 - b. A study should be initiated to develop a list of scarce hardwood and softwood trees and steps taken to implement reforestation programs for each.
11. Reduce clear cutting. There is so much information and data regarding destroying the ozone layer and subsequent green house effect that I believe the USDA Forest Service should be working aggressively at reforestation to counteract these forces.

I would like to thank you for allowing me to provide comments on your EIS. I feel your agency and this particular study has tremendous impact on future developments. Please include me in any EIS studies and/or updates.

Very truly yours,
Samuel S. Pruitt

Response to Comments in Letter No. 439

From: Terrell G. Prewitt

Comment No.

Response

- 1 The map presented on page 1 of the summary, and again on page I-1 of the Draft EIS, is intended to be general. The entire map is of Region 8 of the USDA Forest Service and includes names (in approximate locations) for all Forests in the Region (comment 1.d.). The concept of northern and southern areas (comment 1.b.) is unclear since all of the map is in the southeastern United States. Enlargement (comment 1.c.) and enclosure in a dark line (comment 1.a.) serve no graphic purpose.
- 2 Appendix D provides this information for Appalachian Mountains national forests.
- 3 All other issues raised in this letter are very worthy but are beyond the scope of this EIS as identified on page I-3 in the Draft EIS.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: HERBICIDES: Considering the SOS, in available data as to long term effects on the herbicide, I am in favour of a limited use of herbicides; I am not in favour of using such herbicides as imazethabenzamide, tributuron because of their slow effect on plants, up to three years, long up in the soil and potential mobility which could harm non-target plants. I think it would be better to use such herbicides as glyphosate and trifluralin which take effect quickly and are readily biodegradable. I am not in favour of the use of chemicals because of the possibility of runoff in heavy rains, uneven control, storm pellets blowing into non-target areas, and the chance that they may be collected by windblown.

Comments on Alternatives: Some changes I would like to see in Alternative D: Let areas treated with herbicides, would like to see increased in manual, mechanical methods and biological control to reduce the amount of area treated with herbicides. I like the proposal in Alternative E (p. 10) on summing herbicide use in individual management and total management. I would like to see this incorporated into Alternative D.

Why? I like Alternative D and the points noted here and think that as the Forest Service is committed to maintaining a natural appearance of the forests and controlling exotic species from outside areas that such management should be done without a heavy reliance on outside chemical without use of manual and biological methods provide more job opportunities than herbicide use will?

Other: A) will 5 feet be enough or a barrier to prevent sedimentation or erosion? (Chase pub) it seems a bit small. I think that it should be increased a bit, particularly on steep slopes, where erosion is worse.

Why? B) are livestock owners charged or allowed for the being allowed to pasture their animals on lands? Such a fee would allow the Forest Service a little extra money. Although such fees should be modest at not to discourage owners from wanting to use lands as grazing areas.

Why? C) VOLUNTEERS - are there programs for using volunteer groups for maintenance of campsites, trail or clearing and replanting the thousands of trees that we have seen along the roadside in the Spruce-Fir forests. I think this would be another way for the agency to save money and use in other programs by soliciting the help of volunteer groups such as the Green Club and Green Scouts (Note which club is used as service projects not just for fun - environment).

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

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7240 Jonesboro Rd
 Street
Albany, N.Y. 12212-3400
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 440

From: David Hoods

Comment No.	Response
1	Your concerns relative to specific herbicides have been noted. However, please see table 4-9 (page 4-27, appendix A) for estimates of the half-lives of these herbicides in the Southern Region.
2	Your preference for a modified Alternative D was included in the content analysis of all comments received. In the Final EIS (chapter II), an alternative called Modified D was developed which reduces the overall herbicide use and addresses many of these issues. Please see Letter Nos. 1, 348, and 560. Please note that herbicides are used 100% selectively in wildlife habitat and bald maintenance. Their primary use is to control stump sprouting and encroachment of woody species into grass areas. A section addressing vegetation treatment for each activity has been added to chapter I in the Final EIS.
3	Please see response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3.
4	This 5-foot buffer (Draft EIS page II-47) is meant only to reduce streambank erosion by channel flows. It is required in addition to the much wider filter strips designed to prevent sedimentation caused by erosion from upslope (Draft EIS pages II-54 and II-57).
5	Grazing on National Forests and National Grasslands is done on a fee basis. Fees are very modest and are established on a comparative basis.
6	Volunteers provide thousands of hours of service and money savings to the Forest Service. The Appalachian Trail Association is one excellent example of a group which volunteers to accomplish tasks of mutual benefit.

Feb 15, 19

1 We are strongly, opposed
to any use of pesticides or
herbicides in maintaining
our National forests. The
public always ends up
paying dearly for your
kind of "short cut".

It will be useless to say
"we are sorry" after the
environment is poisoned.

most sincerely,

Ellen & John
Mansfield

5 Saxon Place
Asheboro, N.C.
28804

Response to Comments in Letter No. 441

From: Ellen & John Mansfield

Comment No.

Response

- 1 Your opposition to the use of herbicides was included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Bruce & Regina Clarke
Good Earth Recycling
P. O. Box 3328 CRS
Johnson City, TN 37602

2/15/83

DEAR SIRs:

1 JUST A QUICK NOTE TO VOICE MY
CONCERN ON HERBICIDE USE IN THE NATIONAL
FORESTS.

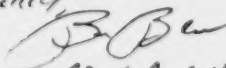
IN READING THE DEIS FOR VEGETATION
MGMT., THE ONLY ALTERNATIVE THAT APPEARS
LEAST LIKELY TO DAMAGE OUR FRAGILE ENVIR-
ONMENT IS "B"

WE NEED MORE VEGETATION ON OUR PLANET
TO CLEAN THE AIR AND LESS HERBICIDES IN
OUR WATER. MY DRINKING WATER ORIGINATES
IN THE NEARBY NATIONAL FOREST

I HOPE MY OPINION CAN MAKE A
DIFFERENCE.

THANK YOU FOR YOUR TIME IN READING
THIS LETTER.

Sincerely



BRUCE B. CLARKE

Response to Comments in Letter No. 442

From: Bruce B. Clarke

Comment No.

Response

- 1 Your preference for alternative B was included in the content analysis of all comments received. Also please see response to comments in Letter No. 522, Comment No. 2.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

February 14, 1989

Dear Forest Service,

I AM WRITING TO OPPOSE

- 1 THE INCREASED USE OF HERBICIDES IN THE SOUTHERN APPALACHIAN NATIONAL FOREST, PARTICULARLY THE CHOCOCHEE FOREST.

I AM SUPPORTIVE OF THE LOW IMPACT METHODS, INCLUDING HAND AND PULLED SELECTED TO REMOVE VEGETATION AND CONTROLLED BURNING.

Sincerely,

Christine Binn

Response to Comments in Letter No. 443

From: Christine Brown

Comment No.

Response

- 1 Your opposition to increased use of herbicides and your support of low impact methods have been included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.



USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, GA 30367

Dear Sirs,

We would like to thank you for giving The Nature Conservancy a chance to comment on the Draft Environmental Impact Statement "Vegetation Management in the Appalachian Mountains". We found this DEIS to be an impressive and comprehensive study on the broad range of available management techniques. We were pleased that public and Forest Service input was reflected in the recommended management techniques. The protection of our natural heritage for future generations is a very important goal of forest service management and great efforts should be made to integrate conservation with other goals and overall objectives. As fellow land managers focused on natural areas we offer the following comments:

Chapter II, Alternatives

Alternative A

"No action" seems be very appropriate for class I areas (Figure III-2). However, does "No action" embrace a "let burn" policy in Wilderness Areas such as the Linville Gorge with Hudsonia montana habitat?

Alternative D, methods and tools

1. Fire: We also use fire as a valuable and essential management tool in fire maintained natural areas but assert that fire does not help to maintain grassy balds (Murdock, unpublished) and that grassy balds are not naturally fire maintained systems. However, fire may be an excellent management tool for heath balds and this distinction should be clearly stated.

2. Herbicides: We would like to see the use of herbicides completely eliminated from T&E species habitat to avoid any potential negative side effects. Several of the rare species depend on openings in the forest canopy and take advantage of cleared areas such as right-of-ways. Considering that most forest service land has not been thoroughly inventoried for its natural resources, we feel that herbicides should not be broadcast on any public lands. Targeted/direct application may be appropriate but not preferred as we do not fully understand the effects.

3. Mechanical: We were pleased to see that only low to moderate disturbance tools will be used and to see the use of these mechanical tools to very restricted.

Response to Comments in Letter No. 444

From: Katherine D. Skinner

Comment No.	Response
1	In alternative A the planned use of fire (prescribed fire) may not be used to protect or manage for fire dependent threatened and endangered species or to reduce unnatural fuel buildups because no vegetation management occurs. The decision to "let burn" or to extinguish natural fire (unplanned, such as those caused by lightning) or man-caused arson fires would be made at the Forest level based on the standards and guidelines contained in the Forest Land and Resource Management Plan that covers a particular wilderness area.
2	We agree that fire may not be appropriate in the management of all grassy balds. Some evidence does indicate that those which occur naturally are not fire maintained ecosystems. However, for those that can be identified as being created by man and have been maintained historically by fire, it is an appropriate method in the long-term management of grassy balds. This decision will be made at the forest level based on a site-specific analysis and the management and action plan developed for the specific bald (mitigation measure number 25, page II-52 of the Draft EIS). See also response to comments in Letter No. 408, Comment No. 6.
3	See chapter II (page II-58 ff, Draft EIS). This section includes requirements specific to threatened and endangered plant and animal habitats which are imposed beyond mitigation number 2 on page II-44 which is required for all vegetation management projects. Creating openings and maintaining cleared areas often requires vegetation management. Sometimes other methods pose more of a threat to protected species than judicious use of herbicides.

Alternative F (no herbicides)

Very appropriate for most areas and is not much more expensive/acre (see figure 1 on page xii). This is our preferred alternative because it does not involve the use of herbicides the restricted use of mechanical tools as Alternative D. However, we would like to see the use of mechanical tools in pine site preparations very restricted to avoid severe soil disturbance.

Alternatives, management requirements

The buffer zones are too narrow for aerial herbicide application. How is drift from wind or turbulence caused by helicopter rotators figured in the recommended width of this buffer? To repeat our position, we feel that broadcast application is inappropriate without proper inventory of endangered and threatened species and knowledge of the effects of herbicides on these species.

Chapter III, Affected Environment

Among the species listed as typical for grassy balds are several weedy European species such as Timothy, Kentucky bluegrass and sheep sorrel, which are characteristic of severe soil disturbance and overgrazed pastures. Creating pastures with introduced weeds should not be an objective. Large grazers such as elk and buffalo are likely to have helped to maintain grassy balds. The elimination of grazers causes the acceleration of shrubby and woody succession observed today on grassy balds.

We concur that fire management may be necessary in wilderness areas if their natural fire frequency has been reduced because wildfires that would have swept from adjacent areas into wilderness areas have been suppressed by many years leading to a decreased fire frequency particularly in smaller areas. A reduced fire frequency threatens fire dependent endangered and threatened species such as Mountain heather (*Hudsonia montana*).

Rights-of-way corridors, utility corridors: see comments for alternative D.

Chapter IV, Environmental Consequences

Herbicides

NOS for public exposure seems quite difficult to determine because the time of consumption after application and the actual concentration of herbicide on berries can vary greatly even with best efforts during application. We feel that neither the public nor workers should not be exposed to any potential health risks from herbicides or pesticides on public lands.

Fire

We would express our concern about the interpolation of acknowledged effects of fire in fire maintained systems to make assumptions on areas with a very low natural fire frequency.

(IV-28) How much of fire training have the workers had, whose accident rates were used as basis for fire related accidents? Could more training for the workers reduce their risk and make them more efficient?

(IV-43) How is "historic" defined? Pre-Indian, Indian, early white settlers?

Appalachian Mountain Balds:

(IV-46) As stated above, from our experience with grassy balds in the Roan Mountain area, we consider fire as an unsuitable tool to maintain grassy balds as burning enhances blackberry (Murdock, unpublished). Even though lightning strikes on balds are frequent, we have not observed natural fires on the Roan Balds during the last thirty years and suggest that high humidity and high fine fuel moisture content limit the number of available burning days even with a frequent ignition source. With existing conditions on the grassy balds, we suggest that fire must occur naturally at a very low frequency. Species characteristic of this community are not fire adapted and should not be attempted to be managed through fire. Surrounding non fire adapted vegetation like spruce-fir forest also does not support the hypothesis that fire maintained balds.

- 4 The commenter's preference for alternative F was included in the content analysis of all comments received. Alternative F does have some of the favorable effects listed. It also has effects considered unfavorable (such as higher risk of personal injury to forest workers) by other commenters. The mechanical tools available in alternative F (listed on pag II-71 of the Draft EIS) allow only low to moderate soil disturbance.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 5 Please see appendix A (section 4, pages 4-19 ff) which reviews drift potential.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

- 6 Comments noted. The intent is not to create pastures with "introduced weeds" but to perpetuate the unique character of balds. We also recognize that balds differ from one another, vegetation between them is not homogeneous; and vegetation management should be based on their origins (natural vs. man-made) and consideration of their historic use patterns.
- 7 Analysis performed assumed that 100 percent of the herbicide contacting a berry was still present at time of consumption. Thus, the assessment is very conservative (health protecting).
- 8 Discussions of fire effects used all the relevant information available from the Appalachians (e.g., Draft EIS volume II, appendix E). Data from other areas were used with great care, and differences in terrain, vegetation, and soils were thoroughly considered. Worker safety data (Draft EIS pages IV-27 to IV-31) show that, despite extensive training required by the Forest Service, some accidents in prescribed fire inevitably occur due to the nature of the work, terrain, and vegetation involved. The word "historically" on Draft EIS page IV-43 refers to the period of Indian and early white settlement, from 10,000 years ago through 1800's (see volume II, appendix E).
- 9 See response to comment 2 of this letter.

Effects of mechanical methods

- 10 On balds (IV-49) : Bald creation through severe soil disturbance such as on Stratton Bald through scarifying, ripping and discing cause severe erosion and provide ideal habitat for weedy non-native invading species such as timothy grass (*Phleum pratense*). We do consider such artificial bald creation as undesirable. The use of such drastic measures also seems not compatible with the USFS choice management alternative D and we would like to see a statement to that regard. Mowing on balds to manage against blackberry invasion should be further investigated as a means to maintain sedge dominated balds. The effect of mulch produced by mowing should also be studied further. Such research needs should be stated clearly.

- 11 On soil and environment (missing): The use of heavy mechanical tools for example during clearcutting often leads to severe soil erosion on slopes, a major source of pollution in creeks and streams and an undesirable soil disturbance. This effect should be discussed under this section.

Effects of herbicides

- 12 (IV-57) We would like to see a clear statement that the use of soil active herbicides is undesirable based on the correctly stated reasons of the long term effects (longer than a growing season) on any roots growing into an area where imazapyr and tebuthiuron have been applied. This long term effect might be desirable for noxious weeds such as Kudzu, however, it is bound to lead to species richness reduction and barren soil, hence erosion potential and further transport of the herbicide into other areas. Soil active herbicides should by no means be used in aerial applications and or large scale applications to prevent any run-off or drift outside the application area resulting long term detrimental effects.

Effects of biological management

- 13 We have not found that grazing on a grassy bald has a negative aesthetic impact if fences are placed in surrounding forested areas. Grazing with cows has been very successful on Big Yellow Mountain in reducing encroaching blackberries and shrubs, except for hawthorn and in maintaining natural community composition and rare plant habitat. Manual hawthorn removal, however, is a minor problem task compared to blackberry reduction. Particularly for small isolated areas we question the use of fire as a management tool, as fire will be hard to control in these sites without undesirable plough lines which eliminate an ecotone between grassy bald and adjacent forest and provide an ideal habitat for introduced weeds; and because fire often results in an increase of blackberries. Repeated hand mowing during the growing season for several years is likely to have the best results outside of grazing management (Murdock, unpublished).

Research needs

We consider a complete inventory of Forest Service land as a very important research need to allow the best management possible for our natural resources. We suggest that The Forest Service take a more active role in the research of management for endangered and threatened species on its property. If the research needs are listed according to their priority, the four of the top six research need are related to the use of herbicides. The valid concerns about the safe use of chemicals and their side effects should certainly deserves study but should not be a main emphasis of resources allocated for research, particularly not if their use is questionable and not unavoidable.

Thank you again for this opportunity to comment. We are looking forward to see the final EIS.

Sincerely

Katherine D. Skinner
Katherine D. Skinner
Director

- 10 See response to comment 6 of this letter. We agree that more research is needed on which methods or combinations of methods are most effective in managing balds. On page IV-151 of the Draft EIS, research item 17 clearly indicates this need.
- 11 Harvest methods are beyond the scope of this EIS, so effects of equipment used for harvest are not discussed. However, effects of mechanical tools used in vegetation management on soil and water are disclosed on Draft EIS pages IV-92 to IV-96 and IV-107 to IV-108.
- 12 Please see mitigation number 7 on page II-59 which restricts use of such herbicides. Our analysis supported this mitigation but not the commenter's conclusions relative to aerial application (see also comment number 5 above).
- 13 Comments noted. We agree that no one method or tool is the solution for every bald. See response to comment number 2 of this letter and response to comments in Letter No. 408, Comment No. 6.

Feb 14, 1989
 1408 Brightleaf Dr.
 Kingsport, TN

USDA Forest Service
 1720 Peachtree Rd., NW
 Atlanta, Ga 30367

Dear Forest Service:

- 1 In reference to unwanted vegetation of our forest lands,
 I object to Alternative D which is an 40% increase of
 herbicides to destroy unwanted plants. I fear that this
 will cause increased pollution to our streams and destroy
 non-target plants & animals.
- 2 I much prefer Alternative B which relies on low impact
 methods of plant control with less likelihood of adverse
 environmental effects, such as erosion and pollution of
 streams.

I hope that you will consider seriously of applying
 Alternative B and not D.

Sincerely,
 Jim Van Buren

Response to Comments in Letter No. 447

From: Jim Van Brasher

Comment No.

Response

- 1 Your concern about herbicide use and its effects on streams and nontarget organisms has been included in the content analysis of all comments received. Note please that these concerns are discussed in chapter IV, sections C, D, and G, of the Draft EIS.
- 2 Your preference for alternative B was included in the content analysis of all comments received. Please see response to comments in Letter No. 261, Comment No. 2.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

212 Turtle Creek Dr.
Asheville, NC 28803

USDA Forest Service
VMT-Room 362 South
1720 Peachtree Rd. NW
Atlanta, GA 30367-9102

Dear Sirs,

I am writing this letter to discuss a matter that has recently been brought to my attention. I understand that the U.S. Forest Service is planning on increasing the use of herbicides in its land management program within our national forests.

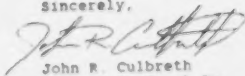
1 It occurs to me that at this time we still do not know the long term effects of herbicides on animals native to the areas being treated, as well as to the human populations near these areas. Due to the nature of herbicides, the possibility of these substances seeping into the water tables of various communities is alarming. We have all ready seen the long term effects of herbicides on humans in the Viet Nam/Agent Orange fiasco. Granted the government maintains that there are no documented scientific studies proving that Agent Orange had any long term effects on humans, but then they appear to have a vested interest in taking this position; much like R. J. Reynolds and the smoking causes cancer issue.

2 If a cut back of manual or mechanical methods is the desired result, I don't quite understand the rationale. There are thousands of individuals looking for work in this country. This appears to be a substantial work force to pull from. In many instances, high-tech chemical methods cost more than manual or mechanical methods anyway. Not to mention the savings in direct payments as a result of lawsuits brought against the government 10-15 years from now when it is found out that these chemicals produces long term side effects in people and their future children.

3 It obviously appears as though land management with herbicides is asking for trouble, if not immediately then years down the road. The U. S. Forest Service is supposed to manage our vast expanses of wonderful, national parks. Let's not give them the permission to manage these national treasures in such a way that will destroy them or their inhabitants (both permanent and temporary) in the future. I for one would like to see the U. S. Forest Service ban all uses of herbicides in their land management program; and if not this, then at least cut back the amount used.

As you could probably tell, I am definitely opposed to the increase in the use of herbicides by the U. S. Forest Service. Thank you for your attention in this. I hope that we all can do the right things to keep our world from disintegrating before our very eyes.

Sincerely,


John R. Culbreth
212 Turtle Creek Dr.
Asheville, NC 28803

cc/U.S. Sens. Terry Sanford
Jesse Helms
U.S. Rep. James M. Clark

Response to Comments in Letter No. 448

From: John R. Culbreth

Comment No.

Response

- 1 The Risk Assessment in appendix A is a scientifically accepted modeling process to account for unknown effects. Please see the articles referenced in response to comments in Letter No. 169, Comment No. 2.

Based on the information disclosed in this EIS, the rate of environmental degradation of the herbicides evaluated is very rapid. Long term persistence is not expected when these herbicides are used according to the mitigation measures required in chapter II, pages II-58 to II-65 of the Draft EIS.
- 2 The purpose of this EIS is to describe the effects of a variety of tool mixes (alternatives) to effect the vegetation management activities proposed in the Forest Plans. Analysis of the effects of the proposed alternatives indicated that human safety and environmental considerations would best be served by alternative D. Both manual and mechanical methods are very important to our vegetation management activities. The proposed reduction of manual and mechanical methods was a result of that analysis where either prescribed fire or herbicide treatment would be more effective and safer to workers or reduce sedimentation. See table II-8 for a summary of the effects by alternative. See also response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3.
- 3 The USDA Forest Service manages National Forests. The USDI Park Service manages the National Parks. Purposes of these two land bases are very different.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

2/15/89

10 Cypress Rd.

Asheville, NC 28804

USDA Forest Service

VMT - Room 362 South

1720 Peachtree Rd, N.W.

Atlanta, Ga 30367-9102

Dear Friends,

- 1 I had seen in the paper some time ago about the proposed herbicide spraying in our WNC parks & today I see this is running out to your opinion. I am TERRIBLY opposed to herbicide. I believe the chemical industry has led us down a primrose path of illusion that chemicals can solve all our problems - personal as well as environmental, & I think the evidence is rapidly mounting that the opposite is true & we are running out of time to get that message.

Chemical is an "artificial" solution - once our man is spraying his pesticides, & soon the birds are saying that we must be stopped & save the environment or it will stop serving us. I think this is absolutely crucial. Chemicals - even though "controlled" tend to wind up being "indiscriminate" & do not therefore change in a natural environmental order, but rather in an unnatural order - therefore our "solution" just becomes the next "problem": Drapacur, World Health Institute, & plenty of other environmental concern agencies all point to this same conclusion.

I beg you to use your power to reverse the environmental - we as humans can do some adapting to nature; we don't always have to make nature adapt to us. I believe we have intrusion into the natural order, the better. And I, again, beg you not to use chemicals. I saw a new phrase the other day that I think expresses this sentiment well: "We have not inherited the planet from our parents, we have borrowed it from our children." All of life - plants, insects, great animals, people - all work in a harmonious way with the life of the planet. We are the only one with choice - and we are rapidly becoming the planet's problem. PLEASE give us some forward thinking leadership - not more chemicals. Thank you.
Julian & Neville

Response to Comments in Letter No. 449

From: William G. Neville

Comment No.

Response

- 1 Your opposition to herbicide use was included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.



COMMONWEALTH of VIRGINIA

Department of Game and Inland Fisheries

4010 WEST BROAD STREET
BOX 11104
RICHMOND, VA 23230

Route 1, Box 107
Marion, Virginia 24354
February 13, 1989

Mr. Steve McCorqudale
U.S. Forest Service
1720 Peachtree Rd., N.W.
Atlanta, GA. 30367

Dear Steve:

Comments on the DEIS: Vegetation Management in the Appalachian Mountains is as follows:

- 1 The preferred alternative D allows for an increase in the acres treated by herbicides and prescribed fire (Page II-73). The use of herbicides and fire may be questioned by many uses of the forest but when properly controlled their use may yield beneficial results for wildlife species.

The statement that "forest may be more restrictive but not less" provides a systems of side boards on vegetation control. This is especially true for site-specific analysis. This allows coordination w/local management agencies in achieving wildlife and other resource management goals.

- 2 Grapevine control guidelines (Page II-50) are not necessarily harmful to wildlife habitat in general. However, it is believed that grapevine control should be limited to site index over 70 and that arbors should be protected if at all possible. Again, these recommendations are site-specific.

- 3 Vegetation control is the major tool for controlling wildlife habitat throughout the Appalachian mountains. The guides provided in the DEIS are acceptable in providing sound management. However, coordination w/local and state management agencies will result improved management of all natural resources.

AN EQUAL OPPORTUNITY EMPLOYER

Response to Comments in Letter No. 450

From: Mack L. Halls

Comment No.

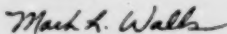
Response

- | | |
|---|---|
| 1 | Comment noted. |
| 2 | This falls under the "more restrictive" clause referred to in the previous paragraph and will indeed be a part of the site-specific analysis. |
| 3 | We agree. Coordination is indeed an important process and several of the mitigations in chapter II of the Draft EIS require it be done. |

Mr. Steve McCordale
February 15, 1989
Page 2

Thank you very much for the opportunity to comment on the DEIS. The Department's cooperative program w/the George Washington and Jefferson National Forest will continually work toward providing vegetation control techniques that will provide all types of wildlife habitat.

Sincerely,



Mack L. Wallis
Supervising Wildlife Biologist

MLM/vj

cc: Jerry Sims
Bob Duncan
Gary Spiers
File



Feb. 16, 1989

Steve McCorquodale
Team Leader, Vegetation Management EIS
USDA Forest Service
1720 Peachtree RD, NW
Atlanta, GA 30367

Steve,

Please consider this to be my response to the Draft EIS for Vegetation Management in the Appalachian Mountains.

I would first like to commend the Team Members for their excellent work in preparing this Draft EIS. Their dedication and professionalism is apparent in the work they have done.

1 After considering all the alternatives in the EIS, I feel that Alternative C is the best suited for vegetation management in the Appalachian Mtns. My rationale is that Alternative C is designed to follow the Land and Resource Management Plan (LRMP) developed for each National Forest in the Appalachian Mtns. If any other Alternative is selected for the Vegetation Management Plan, then it is likely that the Forests will have to go through the process of revising their LRMPs. I feel that this would be a tremendous drain on the Forests. I also feel that the LRMPs developed for each Forest would be better suited to decide which method of vegetation management is to be used since they would be more site specific than a regional plan.

Some of the other reasons why I believe that Alternative C is a better choice than the Preferred Alternative D includes: Alternative C contains more acres treated mechanically; this is a valuable silvicultural tool, particularly on the Alabama and Georgia National Forests.

Alternative C contains less herbicide use and more manual methods. The amount of acres treated by fire is only slightly less. This would be ideal for chainsaw and burn site preparation, followed by a herbicide pine release. This method of regeneration has been demonstrated on the National Forests in South Carolina to produce a healthy mixed stand of pine and hardwoods.

Alternative D contains aerial application of herbicides for right-of-way (ROW) maintenance. The utility companies should employ manual and mechanical methods for vegetation management on the ROWs. For the more remote sections of ROWs, cleared heliports could be constructed adjacent to the ROW for worker access. These heliports could serve as wildlife openings also.

I was heartened to see consideration given to the socio-economic impacts of each Alternative. I have long felt that the communities located within the National Forests have not been given the consideration they deserve whenever the Forest Service makes management decisions. These are generally small,

Response to Comments in Letter No. 451

From: Patricia Hopton

Comment No.

Response

- 1 Your preference for alternative C was included in the content analysis of all comments received. Indeed, some plan amendment is necessary. However, since most plans did not discuss effects by tool, the necessary amendment is the inclusion (as part of the Record of Decision) of new mitigations from chapter II.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

page 2

rural communities that are dependent on the National Forests for employment, goods, and services. The communities have traditionally had agricultural types of employment, with the logging and sawmilling trades being especially dependent on the National Forests. The local people want to see the wise use of forest's resources; however they have seen restrictions placed on logging, mainly by the urban, preservationist-type groups that have no roots in the communities most affected by their decisions.

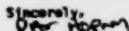
I hope that whenever the Forest Service makes any management decisions they will give special consideration to the local communities. For this reason, I believe that Alternative C is the best choice for vegetation management since it seems to provide the most employment opportunities for the local economies in addition to promoting the wise use of the National Forests.

2

My other concerns with the EIS are how the Forest Service plans on tracking the National Forests to determine if they are complying with the Final EIS. Also, how will the Forests record areas that have double treatments of vegetation management; such as chainsaw and burn. Would this be considered manual or fire? I feel this needs to be worked out or else the Forests will skew their data to make it conform to whatever methods are desirable.

In closing, I would commend the Forest Service for the work it has done in informing the public on the Vegetation Management EIS process. Although public comment is important in determining management decisions, I feel that the Forest Service will pick the alternative that is the most silviculturally sound. It is evident from the Draft EIS that the Service is highly professional and that I can trust their judgment in this matter.

Thank you for the opportunity to give my comments on this.

Sincerely,

Patrick Hopton
Clayton, GA

Discussions of implementation and monitoring controls are found in the Record of Decision and have been added to the mitigation measures in chapter II of the Final EIS.



SIERRA CLUB

CUMBERLAND CHAPTER
Route 10, 219 Walnut Hill
Richmond, KY 40475

February 14, 1989

USDA Forest Service
(Draft 4M, Room 3628)
1720 Peachtree Rd, N.W.
Atlanta, Ga 30367

The following comments on the Draft Environmental Impact Statement, Vegetation Management in the Appalachian Mountains, are provided on behalf of the Cumberland Chapter, Sierra Club.

Inevitably this letter focuses on problems in the DEIS. While deficiencies do exist in the plan, it also has many strengths. It is a useful start toward developing a safe and effective plan for national forests in the southern region. You are to be congratulated for your work in developing the plan so far and for inviting the public to participate in the process.

The following comments are divided into comments on the process of developing the DEIS and comments on the content of the DEIS itself.

PROCESS COMMENTS

1. The rationale for selecting Alternative D is unspecified and unclear. There is considerable discussion of the strengths and weaknesses of various alternatives from various perspectives. The discussion reveals that Alternative D is not clearly the best alternative from all perspectives. Why were some issues more important than others? Recommendations there needs to be a discussion explaining which alternative represents the best trade-off among the various alternatives and issues involved?

"When we try to pick out anything by itself, we find it linked to everything else in the universe."

Response to Comments in Letter No. 452

From: Douglas Hindman

Comment No.

Response

- | | |
|---|---|
| 1 | The rationale for a selected alternative will appear in the Regional Forester's Record of Decision accompanying the Final EIS. None of the alternatives are clearly the best from all perspectives because some perspectives are exactly opposed to each other. Identification of alternative D as "preferred" is a very simple and brief statement of a preference from the Forest Service perspective in response to 40 CFR 1502.14(e). |
|---|---|

Cumberland Chapter, Page 2

2. The issue of public communication has been confused so that the DEIS does not respond to this issue. Recommendation: the content of Issue 82 should be revised and the FEIS should respond to this alternative.

2 As described in the DEIS, Issue 82 "Communication" deals only with communication to the public. Thus the DEIS concludes (p.11-64) that "Responsiveness to this issue does not depend upon alternatives" but is an issue of educating the public thru the EIS process itself.

The DEIS does not deal with issues of communication from the public. However these issues are obvious from public meetings and from the DEIS itself. First, is the issue of public preferences. In the overall public view, "The order of preference for methods to be used was manual, mechanical, prescribed fire, and herbicides." (p 1-6) The public is especially concerned about herbicides (P 1-8). Second, is the issue of trust. "The public seems to distrust those forest managers who use herbicides." (p 1-8) In fact it is clear from various public meetings (though only implicit in the DEIS) that there is concern about whether public views and concerns actually have an impact on forest management decisions.

3. Alternative D is not the best alternative. Recommendation: Alternative B is the most desirable of the alternatives presented and should be chosen.

3

Alternative B leads to improvements in essentially all areas with two exceptions. It also responds to a redefined Issue 82. It does, unfortunately, increase smoke emissions by increasing fires but the public "generally accepted fire as a management tool." (p 1-7). It also decreases managed outputs however the DEIS presents no evidence that decreasing managed outputs is undesirable.

4. The DEIS risk analysis does not follow standard practice of using conservative procedures throughout. Recommendation: the risk analysis should be reviewed and non-conservative features should be eliminated. No decisions should be made based on the current results.

4

It is important that risk analyses use conservative procedures. Risk analyses are, inevitably, based on uncertain assumptions, estimates, and analytic methods. They are complex, difficult to understand, and the implications of non-conservative steps are difficult to predict. Using conservative procedures throughout helps insure that any errors are made on the side of safety.

- 2 Communication by definition is two-way, and the issue characterizes it that way. However, there is a strong suggestion that the public is often dissatisfied with the way the Forest Service communicates to them. We think evidence abounds that (particularly since NEPA, 1969) Federal agencies are strongly influenced by public comment and opinion, and this is especially true of the Forest Service. However, our task is always to balance these often conflicting opinions (see page II-66, part F).

We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

- 3 Your preference for alternative B was included in the content analysis of all comments received. Tables II-8 and II-9 simply characterize effects without desirable or undesirable tags. Reviewers may reach their own conclusions based on their own values. We have identified alternative B as the environmentally preferable alternative; but put in perspective, its advantages over alternative D in protecting human health, soil, water, and air are very slight (see Final EIS section IV.N). Alternative D still does an excellent job of protecting these values.
- 4 Our analyses consistently used conservative assumptions that deliberately overestimated potential adverse effects. Given mitigations requiring application of large droplets in favorable weather (section II.E.2.c), the "cloud of spray" cannot occur. Though the shorts-clad hiker is a realistic scenario, the hiker would have to be lying down during overflight to expose an area significantly greater than that of his full chest. The scenario is, in fact, very conservative. In the Final EIS, buffers for trail crossings have been increased to 200 feet, and the number of acres aerially treated has been reduced to 400 acres per year, less than 1/100 of 1 percent of the 5.2 million acres of national forest land in the Appalachians.

Cumberland Chapter, Page 3

Conservative procedures were not used throughout the DEIS analysis. The following examples illustrate this fact. Additional examples are easily identified.

A. The analysis assumes that someone sprayed by aircraft would be exposed over .186m² of skin (p 4-67) or approximately the area of an adult chest. This is not a conservative estimate for at least two reasons. First, an adult male hiker wearing only shorts in summer (a relatively common scenario) would be exposed over virtually his entire body if enveloped in a cloud of spray. Second, the estimate fails to consider that sprayed hikers would not have facilities to wash spray from their bodies even though the analysis notes that this is an important variable (p. 4-24)

B. Results suggesting risk to the public are discounted noting that "The low probability of each assumption . . . must be emphasized. It is unlikely that anyone would receive a dose as high as those estimated here." (p 5-29) This is not a conservative procedure. Where conservative assumptions lead to the conclusion that risk exists, the conservative procedure is to accept the conclusion. It makes little sense to use conservative assumptions if they become the basis for discounting the results.

5
6
5. Measures for mitigating risks are unacceptable. The DEIS provides few clear rules for selecting appropriate methods and procedures, identifying dangers, ensuring safety of workers and the public, protecting threatened and endangered species, etc. Most decisions are left in the hands of on-site supervisory personnel. Obviously this is desirable IF these personnel are adequately trained. Unfortunately training standards for supervisory personnel are not specified except for a brief note that herbicide applications must be supervised by a "certified pesticide applicator" (p II-41). Training standards for this position are not specified.

A. Recommendations given the wide latitude accorded supervisory personnel, standards for their training should be clearly specified, rigorous, and open for public comment and revision as part of the NEPA process.

B. Recommendations in order to insure adequate mitigation and safety procedures a separate, site-specific EIS process with public notification and input should be conducted for each herbicide application.

- 5 Our statement is valid since it deals with occurrence, not quantity, of dose. While we allow that the high dose is possible, we then go on to reflect probability; a very different consideration.
- 6 Mitigation measures to reduce risks to people and the environment (section II.E) are universally mandatory minimum standards. They are clear, thorough, and rigorous. Their efficacy has been demonstrated by research and will be validated through monitoring.
- 7 Training standards for pesticide applicators certification are the purview of the EPA. The most recent publication of proposed applicator certification standards was published, for public comment, in the July 8, 1988 Federal Register (pages 25960-25961). Training required by the Forest Service in its certification program far exceeds those guidelines.
- 8 We concur. Please see management requirement/mitigation measure number 1 on page II-44 of the Draft EIS.

Content comments

- 9 6. The DEIS provides no clear statement of policy regarding threatened and endangered species. Recommendation: The forest service should clearly and unequivocally state that it will take no action that impacts or reduces the population of any sensitive, threatened, or endangered species or of any species which is a candidate for such status.
- 10 7. The DEIS does not adequately protect sensitive, threatened or endangered species. In particular, herbicides should not be used anywhere near habitat of such species.
- 10 A. Herbicides constitute an inevitable and unacceptable risk when compared to other methods. The argument that herbicides can benefit these species by improving habitat ignores that fact that other methods can also improve habitat. The effects of herbicides on these species can only be estimated and some estimates (p 8-4 to 8-19 & etc.) approach danger levels. If a herbicide killed or reduced the reproductive capacity of even one member of some species, the consequences could far outweigh any long-term benefits of improved habitat.
- 11 B. Proposed limits on herbicide use near sensitive, threatened or endangered species are inadequate. There are no restrictions at all for most herbicides. The most hazardous herbicides are only restricted within 40 feet and, then, only with further restrictions such as "known occupied" bat habitat and birds only during nesting season. Plant species "are protected" but with no description of how this protection will be accomplished. (p 11-59).
- Recommendation: Herbicides should be prohibited in or near all areas where sensitive, threatened or endangered plant species may reasonably be expected to exist or where sensitive, threatened or endangered animals may reasonably be expected to spend a significant amount of time.
- 12 8. Sensitive, threatened, and endangered species can only be protected if their known or likely habitats are known. This has not been done. Recommendation: The forest service should identify such areas and submit them for public comment and revision.

- 9 Please refer to mitigating measures in the Draft EIS on pages II-44 and II-45, which specifically state how threatened, endangered, and sensitive species are protected. Appendix D figures D-1 and D-2 describe the analysis process.
- 10 Appendix D of the Draft EIS discusses the risks to threatened, endangered, proposed, and sensitive species. In most cases, the predicted risks from herbicide use are well below the standards established by the EPA as safe. Where there is a possibility that these standards may not be met, special mitigation measures presented in section II.E.2.c reduce these risks to a level considered acceptable by the EPA and the Fish and Wildlife Service. Risks are further reduced by requirements in chapter II for site-specific analysis which includes assessment and mitigation of risk to threatened, endangered, proposed, and sensitive species.
- 11 The Risk Assessment (appendix A) details the exhaustive analysis process used to determine risk of toxic effects to wildlife. Even though a very conservative approach was used throughout the analysis, few of the herbicides were predicted to pose a significant toxic risk to animals. Distance standards for protection in those instances where risk may be significant (as with threatened, endangered, proposed and sensitive plants) are in accordance with standards established by the EPA. The same buffers are used for all herbicides to protect threatened, endangered, proposed, and sensitive plants.
- 12 Prior to any vegetation management treatment, projects will undergo site-specific analysis (mitigation measure number 1 on page II-44 of the Draft EIS) which determines appropriate methods and tools, intensity and selectivity of applications, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. This includes the examination and evaluation of a reasonable range of alternative methods, including the use of methods which do not involve herbicides. In order to prevent unknowing impacts on threatened, endangered, proposed, or sensitive species, regardless of the method or tool proposed for use, mitigation measure number 2 on page II-44 of the Draft EIS specifically states that when adequate population inventory information is unavailable, it will be collected when the affected site has a high potential for occupancy by a threatened, endangered, proposed, or sensitive species. Figure D-1 of the Final EIS traces the process required to insure adequate assessment of potential harmful effects. Mitigation measure number 9 on pages II-59 and 60 of the Draft EIS further protects these species from risk of adverse effects.

Cumberland Chapter, Page 5

9. Recommendations: "Agent Orange" (2,4-D and variants) should be totally prohibited. This chemical repeatedly appears as the most dangerous herbicide in a wide variety of analyses throughout the DEIS. Although the DEIS repeatedly explains away results which show the danger, the overall weight of the evidence is clear.

13

In fact it is difficult to imagine that an agency of the United States Government would seriously consider spraying Agent Orange on United States forests. The DEIS implicitly recognizes the social/political dangers of using Agent Orange by including a discussion (p 3-17 to 3-19) leading to the conclusion that Agent Orange is not contaminated and represents no hazard. The government has offered such assurances in the past - and been proven tragically wrong as Vietnam Veterans can attest.

This is not the time or place to re-fight Vietnam. Issues of health and safety aside no agency of The United States Government should face the social and political repercussions of using Agent Orange in the United States.

14

10. Recommendations: aerial spraying of herbicides should be totally prohibited. The problems and risks associated with aerial spraying are unacceptable. These include limited pilot visibility, difficulty controlling spray patterns, and potential for drift.

The DEIS recognizes the risks of aerial spraying to water supplies, rare and endangered species, etc. and proposes to require pilots to provide wider spray-free buffers around such areas. It is unreasonable to expect pilots to abide by these restrictions. Aerial spraying would be used on power lines in remote, rugged terrain. Under such conditions pilots will be busy watching rapidly shifting terrain, power lines, and obstacles that could kill them. They cannot be expected to always turn off their spray 100 feet before every stream. It is ridiculous even to propose that they will be able to detect and avoid spraying members of threatened and endangered species.

Hikers also face unacceptable dangers from aerial spraying of power lines in remote, rugged areas. Hikers seek out remote, rugged areas and power line right-of-ways often provide the only easy means of hiking in such terrain. Pilots will not see hikers in high brush (which is, after all, the reason for spraying) and a hiker, sprayed in remote, rugged terrain, cannot get to medical help.

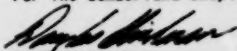
- 13 Your comment is inaccurate. "Agent Orange" is the popular name applied to 2,4,5-T, not to 2,4-D. For recent scientific data regarding the questions raised within this comment, please review the literature cited in response to comments in Letter No. 169, Comment No. 2. Also, please refer to mitigation number 7, pages II-59 of the Draft EIS, which specifies that class A (least risk) herbicides are first choice. In the Final EIS, class B and C herbicides, which include 2,4-D and 2,4-DP, cannot be used without Regional Forester approval.
- 14 Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet and must be clearly marked so applicators can easily see and avoid them (herbicide mitigation measure number 18 in chapter II of the Final EIS). Section IV.G.1 shows the efficacy of such measures.

Cumberland Chapter, Page 6

- 15 11 Recommendations: any herbicide use should be limited to herbicides with an EPA toxicity rating of "Very Slight". This restriction provides maximum safety to workers, the general public and the environment. Before more toxic herbicides are used there should be a special site-specific EIS process with public comment to evaluate the risks and need for these chemicals.
- 16 12 Procedures for disposal of left-over herbicides and empty herbicide containers are vague. Recommendations: there should be clear procedures for:
- collecting and temporarily storing excess herbicides and containers,
 - ultimately disposing of these materials in approved sites,
 - insuring that adequate holding facilities exist,
 - insuring that approved disposal sites exist,
 - insuring the procedures above are followed.
- All procedures should comply with RCRA, etc. requirements.

Thank you for your attention to these comments and recommendations. The members of the Cumberland Chapter, Sierra Club, including myself, look forward to continuing to work with your office toward most effectively managing our national forests.

For The Cumberland Chapter,


Douglas Hindman

- 15 Please see response to number 13 in this letter.
- 16 These procedures are very important and are contained in Forest Service manuals and handbooks for use, handling, and storage of herbicides. We have made a change in the Final EIS that references this source material.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.

Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: The uses of herbicides and forest burning are unsatisfactory methods for dealing with vegetation control in our national forests.

1

Why? Herbicides (whether applied directly, aerially, or broadcast) are unsatisfactory because insufficient data concerning toxicity, field worker exposure, dermal penetration rates, etc. have been made available to prove that their benefits outweigh their harmful effects. Forest burning is unsatisfactory because its control can never be guaranteed. The Yellowstone Park fires should clearly point this out.

Comments on Alternatives: The alternatives proposed by the U.S. Forest Service (especially Alternative D, its preferred method) are unsuitable.

2

Why? With the exception of Alternative A, in which no control is proposed, too much emphasis is placed on the use of herbicides and/or burning and too little on manual, mechanical, and biological treatment (i.e. grazing).

Other: Personally, I am in favor of Alternative A, to maintain the natural order of our forest lands. However, if control is to be enforced, I support the use of manual, mechanical, and biological treatment with very little if any of the other two proposed methods.

Why? Needed labor will be provided with minimum danger to humans, animals, and the environment, and the natural order will be maintained as closely as possible.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Betsy Gandy (private)
 Name First MI Last (Organization)
 324 Titus Lane
 Street
 Jacksonville, N.C. 28540
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 453

From: Betsy Gandy

Comment No.

Response

- 1 Please see response to comments in Letter No. 280, Comment No. 3; and Letter No. 166, Comment No. 3.
- 2 Your preference for alternative A was included in the content analysis of all comments received. See response to comments in Letter No. 266.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).



Sierra Club Georgia Chapter

P.O. Box 467151
Atlanta, Georgia 30346

February 17, 1989

John E. Alcock, Regional Forester
U.S. Forest Service, Southern Region
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

Re: Draft Environmental Impact Statement for Vegetation
Management in the Appalachian Mountains ("the DEIS")

Dear Jack:

The following is the Georgia Chapter of the Sierra Club's ("Ga. Chapter's") comment on the DEIS. While the Ga. Chapter appreciates the obvious effort the U.S. Forest Service had made in compiling information, the Ga. Chapter has serious problems with the preferred alternative (Alternative D).

1

(1) When you and I sat across the table to negotiate modifications to the Chattahoochee-Oconee Land Management Plan ("Ga. Forest Plan"), a principal negotiating point was the Forest Service's policy on herbicide use. The Ga. Chapter and other conservation groups wanted herbicide use restricted or sharply curtailed. The Ga. Forest Plan was amended to state that the "long range goal was to reduce the use of herbicides" and that as "safer (less toxic) pesticides (including herbicides) are registered and become available, they will be used."

The preferred alternative is inconsistent with the Ga. Forest Plan. Rather than attempting to minimize herbicide use, the Forest Service would increase herbicide use under the preferred alternative.

Response to Comments in Letter No. 454

From: Charles W. McGrady

Comment No.

Response

- 1 Alternative D does project about a 40 percent increase in herbicide use for the Appalachian national forests as a whole, but there might be little or no increase on the Chattahoochee. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1. With these changes, less total herbicides should be applied to the land than in the past, despite an increase in acres treated.

The preferred alternative does require use of class A herbicides with least health and environmental risks. See mitigation measure number 3 on Final EIS page II-61.

- 2 (2) The Ga. Forest Plan states that aerial application will not be permitted "unless the herbicide would not cause demonstrable adverse effects on wildlife habitat." The preferred alternative proposes to spray about 900 acres of utility corridors and right-of-ways, but the DEIS does not prove that aerial application will not cause demonstrable effects on wildlife habitat.

- 3 First, as the Forest Service recognizes, the herbicides which are proposed to be used are highly toxic. Second, any herbicides used will clearly cause a change in species composition in the sprayed area. Finally, the Forest Service cannot support its position that it can minimize drift when applying herbicides from the air.

- 4 Under the preferred alternative, the Forest Service proposes to minimize drift by only spraying when wind speeds are 5 m.p.h. or less, but the Georgia Chapter wonders if this limitation on aerial spraying is sufficient given that aerial spraying will be affected by the updrafts and crosswinds which are common in the southern Appalachians.

- 5 Aerial spraying is proposed above utility lines and pipe lines. This presents a problem caused because helicopters applying the herbicides will have to fly well-above the vegetation. The increased elevation caused by the utility lines will increase the possibility of drift.

- 6 In the DEIS, the Forest Service says that buffers will protect surface waters, but there is no explanation of how buffers can be used when making aerial applications. Utility right-of-ways cross ridges and streams, and the Ga. Chapter suspects there is a high probability that some spray will drift into streams.

For the reasons state above, the Ga. Chapter opposed aerial application of herbicides in the southern Appalachians.

- 7 (3) The Ga. Chapter believes, based on the DEIS, that the Forest Service should prefer an alternative more like the low impact proposal (Alternative B). In the scoping process, the public said it disliked herbicide use, yet the Forest Service proposes to make greater use of herbicides. An alternative that combines the thrust of Alternative B with the acreage proposed to be treated of Alternative G and the management tools (manual, fire, mechanical, etc.) of Alternative F would be preferred by the Ga. Chapter.

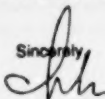
- 2 Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS). Few, if any, of the 400 acres will occur on the Chattahoochee National Forest. The EIS shows conclusively that, with use of mitigation measures required in section II.E.2.c, adverse effects on wildlife habitat will be minimal (sections IV.D and IV.E).
- 3 The eight class A herbicides have low levels of toxicity to people and wildlife when applied at lowest effective rates as we require (Draft EIS page II-58 and sections IV.B and IV.D). Changes in species composition are minor and short-lived where herbicides are applied selectively (section IV.C), which is required on 90-100 percent of the general forest area (Final EIS page II-11). Drift and its effects will be minimal (section IV.G.1).
- 4 Drift was estimated using worst-case assumptions in appendix A, figures 4-1 to 4-3. However, to provide extra protection in mountain terrain, buffers on each side of streams, trails, and roads have been widened from 100 to 200 horizontal feet at a minimum (Final EIS pages II-65 and II-67).
- 5 These factors were included in our estimates of drift.
- 6 All buffers are required to be clearly marked so applicators can easily see and avoid them (Final EIS section II.E.2.c).
- 7 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

8

The Ga. Chapter can support an alternative which will protect forest soils, water quality, and wildlife habitat. The Ga. Chapter suggests that the Forest Service devise an alternative which will (1) minimize herbicide use, (2) avoid aerial application of herbicides, (3) generally employ low intensity, manual methods (particularly on steep slopes), (4) eliminate the use of herbicides near developed recreation areas and wildlife openings, and (5) use dormant season, prescribed burns of low intensity under proper weather conditions.

Thank you for the opportunity to comment on the DEIS. I hope that the final EIS will recommend an alternative that better protects our southern Appalachian forests.

Sincerely,



Charles W. McGrady
Chairman

cc: Kenneth D. Henderson
James Sullivan
Bryan Ripley-Hager
Peter Kirby
James M. Price

Your suggested alternative was fully analyzed as alternative "Modified E" in the Final EIS (sections II.B and IV.W).

Jean McGrady

February 16, 1989

John E. Alcock, Regional Forester
USDA Forest Service, Southern Region
1720 Peachtree Rd., N.W.
Atlanta, GA 30367

Dear Jack:

I wish to submit my comments on the DEIS for Vegetation Management in the Appalachian Mountains. The document has a great deal of important information. Descriptions of management tools were particularly well done and will be a wonderful addition to my ForestWatch Handbook. The tables and graphs are useful in comparing alternatives. However, the DEIS is still a formidable document for the general public to understand. Sometimes it was difficult to get at the core facts of the alternatives. I am afraid people will be overwhelmed and not comment. As complex, mind-boggling as this document is (I think it's more difficult to analyze than a forest plan), I must comment on the DEIS and particularly the preferred alternative (D).

RANGE OF ALTERNATIVES

1 The variation in alternatives appears to be centered around current management (Alt. C). There is the necessary high and low bound alternatives in A, B, and H, but not enough variation between the other alternatives. For example, the proposed acreage treated for site preparation, timber stand improvement (TSI), and wildlife does not vary between 5 of the 8 alternatives. Site Preparation only has two variations, excluding no action and H, which are not realistic, 36,100 acres or 9,000. Since acreage treated for site prep. and TSI is integral to the amount of

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Response to Comments in Letter No. 455

From: Jean McGrady

Comment No.

Response

- 1 Construction of alternatives is somewhat constrained by the five points listed on page II-1. Most importantly, a serious effort was made not to disrupt seriously output goals and objectives of Forest Plans. Alternatives A and B do cause serious disruptions but are necessary to respond to issues, to provide a broad analytical base and to comply with 40 CFR 1502.14. Site preparation and TSI are activities prescribed by Forest Plans, thus they were not manipulated, but a variety of methods to accomplish them was evaluated.

2.

vegetative management needed on the southern Appalachian forests, I would prefer an alternative with more variation than in the DEIS. Likewise the range for mechanical treatment could have been greater.

2

Another problem with the range of alternatives is the lack of an alternative which addresses the mix of tools requested by the public in the scoping process. Under "Balance of Resources" the DEIS states (p. I-6) the order of preference for methods was "manual, mechanical, prescribed fire, and herbicides." While I do not entirely agree with this mixture — would like less mechanical use than fire — the ID team should have developed an alternative to address the public's preference.

DATA GAPS

3

Although the entire Vol. II comprises a risk assessment for herbicide use, the DEIS admits extensive data gaps in the analysis. Lack of data is particularly significant for wildlife and soil organism toxicity. As in any risk assessment, assumptions are a part of this DEIS. However, as Dr. Vernon Houk of the Center for Environmental Health and Injury Control at Center For Disease Control stated in a recent talk about risk assessments, the assumptions need to be validated and researchers must be mindful of the quality of science in the study. "We must apply it [risk assessment] with the soundest professional and scientific judgement available in order to shape public policy that is scientifically defensible." (Risk of Risk Assessment, Dr. Vernon Houk, Jan. 28, 1989) The DEIS does make a good effort, but some assumptions are suspect.

4

5

6

For example, the profiles for leaching of herbicides into groundwater are based on studies in sandy loam in Florida, a very different topography than the steep slopes and shallow soils of the Appalachian mountains which may pose other pollution problems. The drift from aerial spraying of herbicides was estimated with the assumption that the wind is perpendicular to the utility corridor. How often will that be the case in the mountains? Crosswinds and updrafts are common and will confound any prediction for aerial applications. The assumption that terrestrial animals will only be exposed once and that no chronic study is necessary is countered by the data in the preferred alternative. In Alternative D developed recreation areas, roadways and trails would be sprayed annually. These areas are full of small animals which forage in the grasses and brush, not to mention the raptors which hunt rodents and other small game

- 2 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS.
- 3 We agree with Dr. Hauk's statement and have attempted to use sound scientific and professional judgments throughout. The Risk Assessment (appendix A) consistently uses conservative assumptions that deliberately overestimate potential adverse effects of herbicides to account for data gaps.
- 4 Leaching to a 3-foot-deep sand aquifer is a worst-case scenario unlikely to be equalled by any situation in the Appalachians, except perhaps in karst areas which are evaluated in Final EIS section IV.G.1. Field studies of hexazinone, picloram, and 2,4-D in the Appalachians (appendix C) support this conclusion.
- 5 Wind perpendicular to the utility corridor is the worst case assumption. It creates the greatest potential for offsite drift. If it presents a low risk situation, then other wind direction can only be less risky. However, buffers along streams, trails, and roads have been widened from 100 to 200 horizontal feet in the Final EIS to give greater protection in mountain terrain.
- 6 Trails, recreation sites, and County/State roadsides would be treated annually, but Forest Service roadsides would be treated once every 3 years (section II.B.4). However, the same spot would rarely, if ever, be treated twice in a row because herbicides are so effective in killing noxious plants and preventing sprouting of wood plants. In addition, herbicide treatments along trails and in recreation sites must be 100% selective (applied directly to individual target plants only), so risk of exposure to people and animals is minimal. With half-lives of 6 days to 2 months (appendix C, table 1), our class A herbicides (table II-1) have no toxic potential left a year after treatment.

3.

for food in such open places. What recreation area is not rife with squirrels, chipmunks, field mice which opportunistically feed on what campers discard. The above mentioned disparities only highlight the nebulous nature of the risk assessment.

7

Yet much data was compiled and, I believe, a sincere attempt was made to assess the hazards of herbicide use. The lack of data, questionable assumptions only point out the need to be cautious. The one obvious fact that arises from the pages of this DEIS is that there is a great deal which we do not know about herbicide effects on the forest ecosystem. In light of that lack of knowledge, the Forest Service should err on the side of conservatism. Instead, the preferred alternative proposes to increase the use of herbicides above current direction!

Preferred Alternative vs. Chattahoochee/Oconee settlement

8

It was in light of the limited scientific knowledge of the effects of herbicides that the conservation groups which appealed the final forest plan in Georgia sought a reduction in herbicide use. Consequently, the Forest Plan was amended to state that the "long range goal was to reduce the use of herbicides" and that as "safer (less toxic) pesticides (including herbicides) are registered and become available, they will be used." (C/O LMP, p. 4-23). The preferred alternative would increase herbicide use in direct opposition to the settlement agreement for the Chattahoochee-Oconee National Forests.

9

The agreement also states that aerial application will not be permitted "unless the herbicide would not cause demonstrable adverse effects on wildlife habitat". This DEIS fails to prove this point. Adverse effects are not only demonstrated by the toxicity of these chemicals, but also the changes in habitat which occur in the shift in species composition of a sprayed area. Although the DEIS promises to minimize drift by only spraying when wind speed is 5 m.p.h. or less (p.11-62), wind speeds will be affected by the updrafts and crosswinds which are common in the miles of corridors within the Southern Appalachians.

Aerial spraying of power lines presents another problem. The helicopter must fly above the lines. The increased elevation above the ground will increase the possibility of drift. The DEIS maintains that

- 7 See our response number 4 above. Our analyses were consistently conservative, deliberately overestimating potential adverse effects of herbicides. Our preferred alternative, especially in the Final EIS, is also conservative in that it reduces application rates to the lowest effective rates (Final EIS page II-62) and requires herbicide treatments in the general forest area to be 90-100 percent selective (page II-11), which further reduces rates by 40-70 percent. The net result is that, although acres of herbicide treatments increase from the present, the actual amount applied to the land declines.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
- 8 Because this is a programmatic document, concise predictions about methods used on an individual forest aren't possible. However, based on our response to number 7 above, the theme of the preferred alternative, especially in the Final EIS, is consistent with the settlement.
- 9 Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS). Effects from aerial application will be limited to only 400 acres per year on utility lines only, or less than 1/100 of 1 percent of national forest land in the Appalachians. Our data shows that aerial application will probably not be done on the Chattahoochee National Forest.

The EIS shows conclusively (section IV.D) that the herbicide use proposed in the preferred alternative will have minimal adverse effects on wildlife and their habitat. This is largely because mitigations (Final EIS section II.E.2.c) limit use to carefully-timed application of least-risk herbicides at lowest effective rates. As to effects from spray drift, see our response number 5 above and Final EIS section IV.G.1.

- 10 buffers will protect surface waters, but it does not explain how buffers can be used with aerial spraying. Utility ROWs cross many ridges and small streams with a high probability of some spray drifting into the water. In sum, the chances of affecting non-target plants and animals are too great to allow any aerial spraying in the Appalachian Mountains.

Safety Analysis

- 11 The accident analysis admits to limited data – only 76 accidents reported in the last 4 years in the southern region. The DEIS also states "No data exist to determine occurrence rates of other health problems" (p. IV-27) such as hearing loss from loud machinery, cancer resulting from exposure to chemicals/fuels, infections of wounds from vegetation management. Therefore, there is no available recorded data on the more subtle adverse effects herbicides may have on applicators. Such lack of information flaws the conclusions about safety of the various methods.

- 12 The greatest accident frequency (table IV-8) occurs from Other in range mgmt., followed by Struck By Vegetation and Slipping. Power tools were among the least frequent accident causes. While prescribed burning did have the greatest incident of accidents, site preparation accidents ran the whole spectrum of causes. It appears that accidents associated with vegetation management are little more frequent than the chance we take walking in the woods in our everyday lives.

- 13 The DEIS' assumption that "accidental injuries from other methods pose greater risks to workers than health impacts from herbicides" (p.x) is not well-founded. As was stated in DEIS above, the Forest Service has no data on tracking related health problems. In the case of herbicides, there are no Forest Service personnel in the field during applications to monitor incidents which could affect personnel and the forest. While supervision is careful in distributing/mixing the chemicals and the herbicides are accounted for at the end of the day, spills or careless clean-up can happen in the field. ForestWatch volunteers have found evidence in the field of poor handling of the herbicides on site. (See Friends of the Mountains comment on DEIS). If a person applying herbicides happens to spill some on themselves, he can just wash it off. There is not necessarily a need for immediate medical attention, so the incident does not get reported. On the other hand, when someone is cut or twists an ankle, he must get medical
- 14
- 15

- 10 The Risk Assessment accounts for aircraft height above power lines when modeling drift. The Final EIS (section II.E.2.c) specifies that all buffers must be clearly marked so that applicators can easily see and avoid them, but properly leaves implementation details to the field personnel who can adapt their methods to the conditions of each site. As for efficacy of our buffers, see our response numbers 5 and 9 above.
- 11 We are confident that the accident statistics presented reflect the relative frequency and severity of accidents within the Forest Service program. While only 76 accidents related directly to vegetation management activities occurred in the Appalachian Mountain forests during the 4 years, this converts to 604,000 person hours of work. Through use of the Risk Assessment, we have taken a far more rigorous look at the potential subtle adverse effects of herbicides than we have for manual methods. If anything, the health and safety advantages of herbicides over manual methods are greater than the EIS discloses.
- 12 The cause of the accidents may appear similar, but the frequency and severity of accidents is greatest for manual methods and prescribed fire and far greater than walking in the woods. See our response number 11 above.
- 13 The cited page is in the summary. This information merely reflects the findings of the EIS analysis. See our response number 11 above.
- 14 Your statement is in error for all force account operations, which use Forest Service crews. And, while true for many contracted applications, a Forest Service professional is responsible for each treatment.
- 15 Your assumption that a spill of herbicide on a person that is immediately washed off is equivalent to a dosage requiring medical attention at some future time is not supported by facts. Should a spill result in a treatable injury, it is reported just as is any other accident which requires treatment. Immediately washing off herbicide spilled on the skin virtually eliminates any potentially hazardous dose from the exposure.

attention and the incident is recorded. The data to support the statement in the DEIS is just not available.

Species Composition

16

Manipulation of habitat is the business of vegetation management. The DEIS does discuss the effects of habitat changes on wildlife, but does not give great weight to those changes in considering the alternatives. The document seems ambivalent about the issue of diversity, yet diversity is the key to all this vegetative manipulation. How intensively the forest is managed affects the tools needed to do the task; higher impact tools for more intense management. Maintenance of one of the most diverse ecosystems in the northern hemisphere should be the underlying consideration to management decisions on our national forests, yet the DEIS constantly talks of reducing competition of unwanted (i.e. non-commercial) species. Yet it is the wide variety of flora and fauna that is the treasure house of the Southern Appalachians.

17

In assessing the degree/type of vegetation management, I find it impossible not to think of the trees as part of the vegetation. The DEIS says that silviculture is already covered in the forest plans, but how silviculture is implemented is fundamental to vegetation management. For example, how much site preparation and timber stand improvement is necessary is contingent on the method of harvest and the species composition of the forest. In 6 of the 8 alternatives between 40% and 50% of the acreage is treated for timber outputs, which I wager does not include a healthy addition for timber road maintenance. Clearly, timber outputs do affect the vegetation management direction on the national forests.

Recommendations

18

I would like to see a new alternative run which would be a combination of B, and F. The DEIS well documents the adverse effects of the more intensive use of fire and mechanical tools. New alternative would incorporate the low impact thrust of Alt. B to protect forest soils, water quality: *only selective tools for herbicide application, no aerial spraying, low intensity mechanical tools with particular care for our steep mountain slopes, dormant season prescribed burns only of low*

- 16 Chapter IV, part C, contains discussions of effects on diversity (species composition). If discussing timber resource management, it is appropriate to consider "commercial species," but this EIS evaluates all sorts of vegetation management practices for multiple uses, not just timber management. Table II-8 shows that the preferred alternative promotes more habitat diversity than any other alternative.
- 17 The EIS simply accepts the decisions on silvicultural systems and harvest methods mutually agreed upon in the Forest Plans. Obviously, timber-related activities compose a large share, but not a majority, of our vegetation management program in the Appalachians. All road maintenance is accounted for in our acre figures. See Final EIS section I.B for a discussion of the relationship between vegetation management objectives and treatments and harvest methods.
- 18 The essence of your suggested alternative is evaluated in detail in the Final EIS as alternative MODIFIED E. See especially sections II.E and IV.W and tables II-8 and II-9.

intensity under proper weather conditions. The use of herbicides would be at bare minimum and only the chemicals listed as Class A (p.II-42) in the DEIS. Eliminate use of herbicides in developed recreation areas and wildlife openings where people and animals tend to congregate. The areas can be maintained by mowing and manual methods.

The order of priority for mix of methods would be manual, fire, mechanical, herbicides, biological for balds. As stated in the DEIS (p.IV-50), only 5,400 acres or 4% of all veg. management was done mechanically because of the difficult terrain. The impacts of mechanical tools are more obvious and can be more severe than some herbicides. In my experience, ForestWatch volunteers have seen more degradation from mechanical methods and improper herbicide use than prescribed burning. The effects of use of mechanical tools should not be based on the gentler slopes of the Piedmont and Coastal Plain sites as is stated in the DEIS (p.IV-50 use "produce similar results to their use on the Piedmont and Coastal Plain sites").

19

The DEIS analysis reduces manual methods because of expense and safety. The expense would be reduced by treating less acreage for pine conversion, including site preparation and TSI, and would be offset by increased local employment. As to safety, the accident record of the past 4 years indicates that only 20% of all Forest Service injuries were results of vegetation management. I believe that the statistics would not significantly increase.

20

For the new alternative the total acreage treated would decrease from current to Alt. G (107, 190 acres) with the reduction primarily in site preparation and TSI with slight reductions in wildlife habitat (for early successional species) and fuels treatments. A slight reduction in wildlife outputs would have a negligible effect because early successional habitat is maintained on rights-of-way, utility corridors, and by the harvesting of timber. Reductions in site prep. and TSI would be easily accomplished by developing a program for mixed management, as the Chattahoochee/Oconee N.F. staff is doing, across all the Southern Appalachian national forests. By adapting the forest-type to site soils, aspect, etc. and allowing for inclusions of other species within each stand mixed management emulates the natural forest condition. This decreases the need for vegetation management to reduce "competition". Attempts to

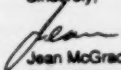
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- 5
- 19 The EIS supports your view that most mechanical methods have greater overall adverse environmental impacts than our proposed herbicide use on equivalent sites. The EIS analysis also shows greater adverse impacts from severe or very frequent prescribed fires (see especially sections IV.C and IV.F). Effects of mechanical tools on vegetation were evaluated independently for the Appalachians, and were found to be similar to effects in the Coastal Plain and Piedmont. The analysis was not based on Coastal Plain/Piedmont sites.
- 20 All environmental elements were considered when selecting the preferred alternative, not just economics and safety. Relative to increased local employment, please see response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3. Despite extensive worker safety programs, accidents occur during manual and fire vegetation management activities more frequently than in other practices. More manual work will result in more accidents.
- 21 See our response number 18 above.

7.

convert these historically hardwood forests to pine has intensified vegetative management and increased costs. Natural regeneration would take place with minimum tools for management, thereby greatly reducing environment effects on soils by nitrogen loss and erosion. Mixed management could strike the balance between timber resources and maintaining biological diversity on our national forests. The future of the Southern Appalachian national forests lies in this direction.

Sincerely,


Jean McGrady
ForestWatch
Coordinator

cc: Ken Henderson, Supervisor Chattahoochee/Oconee N.F.
James Sullivan, Friends of the Mountains
Peter Kirby, The Wilderness Society



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February 16, 1989

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RE: CONSIDERATION OF TEBUTHIURON FOR VEGETATION MANAGEMENT
 ON FOREST SERVICE LAND IN APPALACHIAN MOUNTAINS

We appreciate the opportunity to comment on issues regarding the use of the herbicide tebuthiuron on Forest Service land, which are identified in the draft environmental impact statement VEGETATION MANAGEMENT IN THE APPALACHIAN MOUNTAINS, VOLUMES I and II. Two major issues were identified in the E.I.S.: 1) A margin of safety less than 100 associated with use of tebuthiuron in backpack sprayers; and 2) Mitigation measures to minimize offsite damage to nontarget vegetation from tebuthiuron applications. Scientists at Lilly Research Laboratories have carefully considered these issues and have provided information to clarify product uses and to mitigate risks associated with proposed uses.

Reproductive Margin of Safety Associated with Tebuthiuron Use

1 Backpack Sprayers: The SPIKE 80W label recommends against the use of broadcast sprays where maintenance of a herbaceous cover is desired. Thus, use of "broadcast foliar sprays" would be confined strictly to use for total vegetation control (TVC). For woody plant control on Forest Service land, the appropriate use for SPIKE 80W is spot or banded application to the soil surface. The SPIKE 80W label provides recommendations for boom-type sprayers, backpack sprayers, or the spot gun. Users of backpack sprayers are directed to use a straight stream nozzle and less than 10 PSI pressure to deliver the product to the soil surface in a narrow band. All treatments, whether banded or spot applications, are directed in a straight stream toward the soil surface at low pressure which reduces drift and human exposure to very low levels. Because of these specialized application methods, potential drift and human exposure from SPIKE 80W woody plant treatment methods is much less than for foliar sprays of other products.

Response to Comments in Letter No. 456

From: Dr. Marilyn L. Jones

Comment No.

Response

- 1 The distinction noted in this paragraph has been considered in developing the MOS algorithm. Note the difference between backpack (foliar) and soil spot MOS's calculated. Foliar spray is calculated as for all other herbicides recognizing low p.s.i. application through nozzles which produce low-drift large droplets.

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Page 2

2

Toxicology: Data reported in the draft E.I.S. have been evaluated by Eli Lilly and Company toxicologists. Corrections and/or clarification of information presented in various sections of the E.I.S. are provided in attachment 1. We understand that margins of safety for different products have been calculated relative to NOEL's in various toxicology studies without respect to the nature of the effect. However, it is important to note that the reproduction NOEL of 5 mg/kg/day for tebuthiuron is for a reversible maternal systemic effect of minimal toxicological significance and that the compound had no effect on reproduction.

Since the only compound-related effects in reproduction studies were maternal, with no effects on offspring, and no embryonic or fetal development effects were observed in teratogenic studies, it is appropriate to utilize the NOEL of 25 mg/kg BW/day in the one-year dog study as the lowest NOEL for purposes of risk assessment. Using this NOEL, the MOS for backpack sprayers of tebuthiuron becomes 120, instead of the MOS of 24 calculated in the draft E.I.S.

3

Additional toxicology information is provided in attachments 2, 3, and 4. Attachments 2 and 3 are EPA documents. Attachment 2 is entitled "Guidance for the Reregistration of Pesticide Products Containing Tebuthiuron as the Active Ingredient" and attachment 3 contains scientific reviews of toxicology studies submitted to the Agency prior to issuance of the 1987 Tebuthiuron Registration Standard. Attachment 4 provides the current status of major tebuthiuron toxicology studies relative to requirements of the registration standard. All tebuthiuron toxicology requirements have been addressed. Required studies have either been repeated, or data clarified with EPA which allows studies to be upgraded to acceptable or "core minimum" status.

4

Attachments 5 and 6: Current SPIKE 80W and SPIKE 40P labels are attached for your information. You will note that the SPIKE 80W label is for product in water soluble packaging. Elanco is currently test marketing SPIKE 80W in water soluble packaging. If successful, Elanco will offer SPIKE 80W in this type of packaging exclusively which will significantly further reduce mixer/loader exposure.

5

Mitigation Measures to Minimize Potential Offsite Vegetation Damage from Tebuthiuron Treatments

Attachment 7 provides Elanco's recommendations for treatment offsets to minimize potential tebuthiuron injury to offsite vegetation. Tennessee Valley Authority (TVA) has agreed to supplement Elanco's recommendations with their written guidelines for tebuthiuron use. Because of the February 17 deadline for submitting comments on the E.I.S., any variance between Elanco and TVA recommendations may require additional clarification.

We contend that potential for offsite damage from use of tebuthiuron can be mitigated by the treatment setback measures

- 2 This Risk Assessment uses conservative assumptions to compensate for any uncertainty in the methodology or toxicity studies. Therefore, it is our contention that any deleterious effect seen in a reproductive toxicity study, even though only seen in the mothers, is likely to influence the reproductive success of the animal tested.
- 3 Thank you for this information.
- 4 We agree that water soluble packaging would be a major advance in lowering risk to workers. We look forward to the commercial availability of such packaging.
- 5 The "setback to prevent damage to nontarget woody plants" section of attachment 7 presents very useful proposals for the protection of forest areas paralleling rights-of-way. Site-specific environmental assessment must still show the need for tebuthiuron treatment and shows that these setbacks can be maintained throughout the area to be treated. Due to continued concern about persistence in proximity to forest areas, Regional Forester approval will still be required for projects involving tebuthiuron.

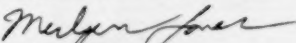
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Page 3

proposed. These measures are feasible and effective and allow the benefits of dependable broad spectrum woody plant control from a single application of tebuthiuron. More than ten years of use experience suggests that reapplication of tebuthiuron should not be required for a minimum of 5 to 7 years. When required, retreatment is likely to consist of spot treatment or small localized broadcast treatments. In general, risks from single or widely spaced tebuthiuron treatments should be compared to risks from more frequent use of alternative products.

I hope this information will be of help in completing the E.I.S. Please feel free to call on me if additional information or clarification is required.

Sincerely,

ELANCO PRODUCTS COMPANY
A Division of Eli Lilly and Company



Merlyn L. Jones, Ph.D.
Tebuthiuron Registration Manager
Plant Science Projects Development
and Registration Division

jw



ATTACHMENT 1

February 8, 1989

Dr. B. J. Eaton
Dr. M. L. Jones
cc: Dr. R. S. Bjerregaard
Dr. E. W. Day
Dr. M. A. Dorato
Dr. J. L. Emmerson
Dr. G. C. Todd
Dr. J. C. Walker

RESPONSE TO USDA FOREST SERVICE ENVIRONMENTAL IMPACT STATEMENT FOR THE
APPALACHIAN AND COASTAL PLAIN REGION FOR TEBUTHIURON

The following comments are provided on the toxicology sections of the
tebuthiuron review for inclusion in your response to the Forest Service:

ACUTE AND SUBCHRONIC EFFECTS (Table 3-3, P 3-15)

6

The data in this table must be updated to show an MLD value in rabbits of greater than 5000 mg/kg, which reflects a FIFRA Category IV rating instead of Category II. The oral MLD value in rats has decreased from 644 mg/kg to between 388 and 478 mg/kg, which reflects a FIFRA Category II rating. In addition, a subchronic dermal toxicity study in rabbits was classified as core guideline by the U.S. EPA in January, 1987 with a NOEL greater than 1000 mg/kg, the limit dose for this study.

ONCOGENICITY (Table 3-6, P 3-36)

7

This table should reflect negative oncogenicity results in two species instead of one. Two-year oncogenic studies in both rats and mice were accepted and classified by the U.S. EPA as core minimum in December, 1988. These studies showed that tebuthiuron was not oncogenic when administered in the diet for two years at doses up to 1600 ppm in rats and mice.

MUTAGENICITY (P 3-34)

8

Tebuthiuron is not "assumed to be non-mutagenic", but is non-mutagenic based on the negative results obtained in an extensive battery of genotoxicity tests. This conclusion is consistent with the absence of oncogenic effects in two-year rat and mouse studies. There is no evidence that tebuthiuron presents a mutagenic risk to humans.

- 6 Changes have been made in the Risk Assessment to reflect these data.
- 7 Please note that the date of publication of Draft appendix A is November 1988, a month prior to classification of the second study. However, in the Final EIS this table has been updated.
- 7 This table has been corrected.
- 8 Because one study in mouse lymphoma cells resulted in mild mutagenicity (according to the 1986 EPA tox one-liner), it cannot be stated conclusively that tebuthiuron is non-mutagenic. However, based on the weight of evidence in consideration of the 6 mutagenicity assays that produced negative results, tebuthiuron is assumed to be non-mutagenic in this Risk Assessment.

Page p
February 8, 1969
Tebuthiuron

CHRONIC TOXICITY (Table 3-2, P 3-13)

9

The lowest systemic NOEL for use in calculation of long-term margins of safety should be from chronic toxicity studies and therefore should be based on data from the one-year dog study. The same doses were used in the one-year study as in the three-month study. The effects of increased thyroid-to-body weight values and increased enzyme levels were found in the one-year study, but at dose levels of only 50 mg/kg body weight. The NOEL in the one-year dog study was 25 mg/kg body weight.

REPRODUCTION AND TERATOLOGY (Table 3-2, P 3-26)

10

In two- and three-generation rat reproduction studies in which tebuthiuron was administered at dietary concentrations as high as 56 mg/kg/day, reproductive capacity was unimpaired; no dose-related conditions or lesions were found in any offspring or adults; and sperm morphology and spermatogenesis were normal in all adult males. In reproductive studies in rats reported by Hoyt et al. (1981), dose levels of 100, 200 and 400 ppm were equivalent to time-weighted averages, based on food consumption values, of 7, 14, and 28 mg/kg/day, respectively. The only compound-related effect in this study was a slower rate of weight gain in F₁ generation female rats that was dose-related at 14 and 28 mg/kg/day, but significant only in high-dose females. This effect was readily reversible upon cessation of tebuthiuron treatment.

In teratology studies in rats and rabbits, there were no embryonic or fetal development effects during the period of organogenesis in pregnant rats fed diets containing up to 1800 ppm or in pregnant rabbits given dietary doses of tebuthiuron up to 825 ppm.

METABOLISM (Table 3-4, P 3-28)

11

This table indicates there is no available data to show elimination rates of tebuthiuron in animals. Published data by Morton and Hoffman (1976) showed that tebuthiuron was rapidly absorbed, extensively metabolized, and rapidly excreted in the urine of mice, rats, dogs, rabbits, and ducks following oral ingestion, and no accumulation of tebuthiuron or its metabolites was observed.

The metabolism of tebuthiuron was rapid and qualitatively similar in the mouse, rat, and dog. Demethylation at the 3-position of the urea-side chain was a major route of metabolism in the mouse, rat, and dog. Oxidation of the demethyl group occurs to a great extent in the mouse and rat and the data suggest that man would also rapidly metabolize tebuthiuron to similar demethylated and oxidized

- 9 Even though the 90-day dog feeding study was subchronic in duration, effects were observed at the lowest effect level of 25 mg/kg/day. It would not be defensible to base the risk assessment NOEL on it, even though another study did not show effects at this level. The risk assessment NOEL was based on the NOEL determined in that study of 12.5 mg/kg/day.
- 10 See response to Comment No. 2.
- 11 According to the 1987 Guidance for Reregistration of Pesticide Products Containing Tebuthiuron as the Active Ingredient, there are no general metabolism studies available for technical tebuthiuron and are required for reregistration. Since the study mentioned in your letter was available to EPA at the time that document was written, we assume that it was not up to their standards for one reason or another, and are awaiting submission of a peer-reviewed, EPA-acceptable study.

Page p
February 8, 1989
Tebuthiuron

products. After a single oral dose of 10 mg tebuthiuron/kg in rats, mice, rabbits, and dogs, elimination of tebuthiuron was virtually complete within 72 hours. Excretion in rats, dogs and rabbits was almost exclusively in the urine (>90%), while approximately 30% of excretion occurred in the feces of mice.

Repeated administration of tebuthiuron in the diet prior to administration of a radioactively-labeled dose had no effect on the rate or route of excretion in rats.

SUMMARY AND CONCLUSIONS

12 It is important to note that tebuthiuron acts to interfere with photosynthesis in plants by inhibiting RNA and lipid synthesis in leaf cells and chloroplasts, a process that is not present in humans or animals. The specificity of its effect is an important factor in viewing the possible hazard to living organisms other than plants. This conclusion is further supported by data that show the rapid absorption, extensive metabolism, and rapid excretion in dogs and rats following ingestion. Neither tebuthiuron nor its metabolites accumulate in animals.

The single most important effect of tebuthiuron found in subchronic toxicity studies was reduced body weight gain that was rapidly reversible upon cessation of tebuthiuron treatment.

No carry-over effects were found on reproductive capacity in rats fed tebuthiuron continuously for three generations. Tebuthiuron fed to pregnant rats and rabbits during fetal development resulted in no abnormalities. Tebuthiuron produced no detectable effects in genetic material in a battery of standard mutagenicity assays, and the compound was not oncogenic in two-year rat and mouse studies at dietary doses up to 1600 ppm.

In the reproduction studies, a statistically significant reduction in weight gain was seen at 28 mg/kg/day (high dose). There were no reproductive or fetal effects at 28 mg/kg/day, and the body weight gain effect was reversible. Thus, there is no basis for suggesting that tebuthiuron is a reproductive or teratogenic hazard at levels as low as 14 mg/kg/day. The lowest systemic NOEL that reflects chronic tebuthiuron toxicity suitable for calculation of margins of safety for repeated human exposure should be based on the NOEL in the one-year chronic dog toxicity study of 25 mg/kg/day.

Anticipated tebuthiuron exposure from backpack spraying is 5 days per year at intervals no shorter than 4-6 weeks. In view of the rapid rate at which tebuthiuron is metabolized and excreted, animal toxicity data suggest that no adverse health effects would be expected in humans from repeated exposure to tebuthiuron at doses as high as 25 mg/kg/day.

D. S. Negilski
4307

OR

Attachment

It was not assumed that tebuthiuron bioaccumulates in animals, as stated on page 3-27 of the Risk Assessment.

REFERENCES

- BOYT, J. A., E. R. ADAMS AND W. V. OWENS (1981). A two-generation reproduction study with tebuthiuron in the Wistar rat. Eli Lilly and Company, Greenfield, IN Unpublished study. NRID 00090108.
- MORTON, D. M. AND D. G. HOFFMAN (1976). Metabolism of a new herbicide, tebuthiuron (1-(5-(1,1-dimethylethyl)-1,3,5-thiadiazol-2-yl)-1,3-dimethyl urea), in mouse, rat, rabbit, dog, duck and fish. J. Toxicol. Environ. Health. 1:757-768.



MEASURES FOR MITIGATION OF OFFSITE DAMAGE TO
WOODY PLANTS FROM TEBUTHIURON APPLICATION
(ELANCO RECOMMENDATIONS)

Spike(R) products, containing the active ingredient tebuthiuron, are highly effective soil active herbicides. Spike is particularly effective against many species of woody plants.

SPIKE APPLICATION

To maximize effectiveness on woody plants and minimize the potential for damage to nontarget vegetation the following guidelines should be followed when applying Spike products:

Liquid Sprays:

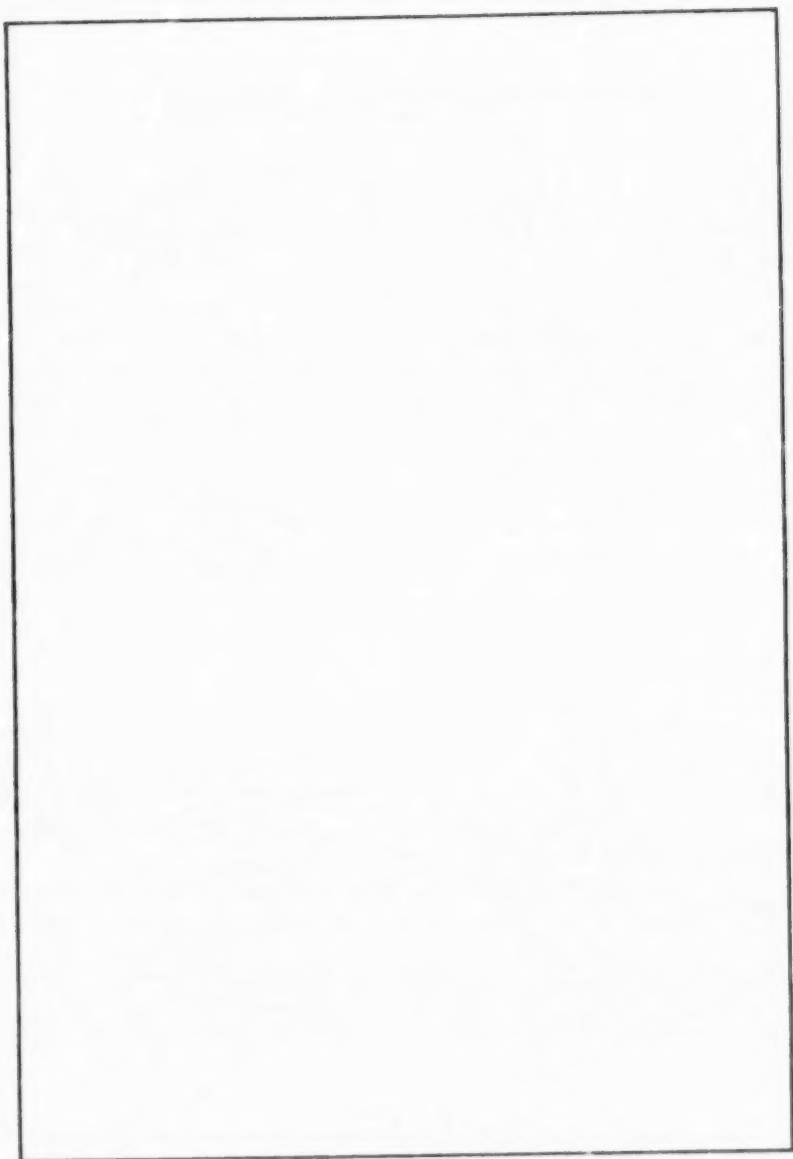
Using low pressure and straight stream nozzles, apply Spike in a narrow band around the stem base of individual plants or in parallel bands 4 to 10 feet apart for broadcast treatments.

Pelleted Formulations:

Uniformly broadcast pellets at the recommended rate between the stem and the dripline of individual woody plants or uniformly across the target area for broadcast treatments.

Setback to Prevent Damage to Nontarget Woody Plants:

Individual woody plants - Individual trees growing in the open without competition from neighboring woody vegetation commonly have root systems which extend considerably beyond the drip line. Do not apply Spike within a distance equal to the maximum height or canopy width of the nontarget woody plant, whichever is greater (as measured from the edge of the Spike treatment to the trunk of the nontarget tree). If the nontarget woody plant has an upright growth pattern, use maximum height as a measure of correct setback distance. If canopy width of the nontarget tree is greater than height, use maximum width as a measure of correct setback distance.

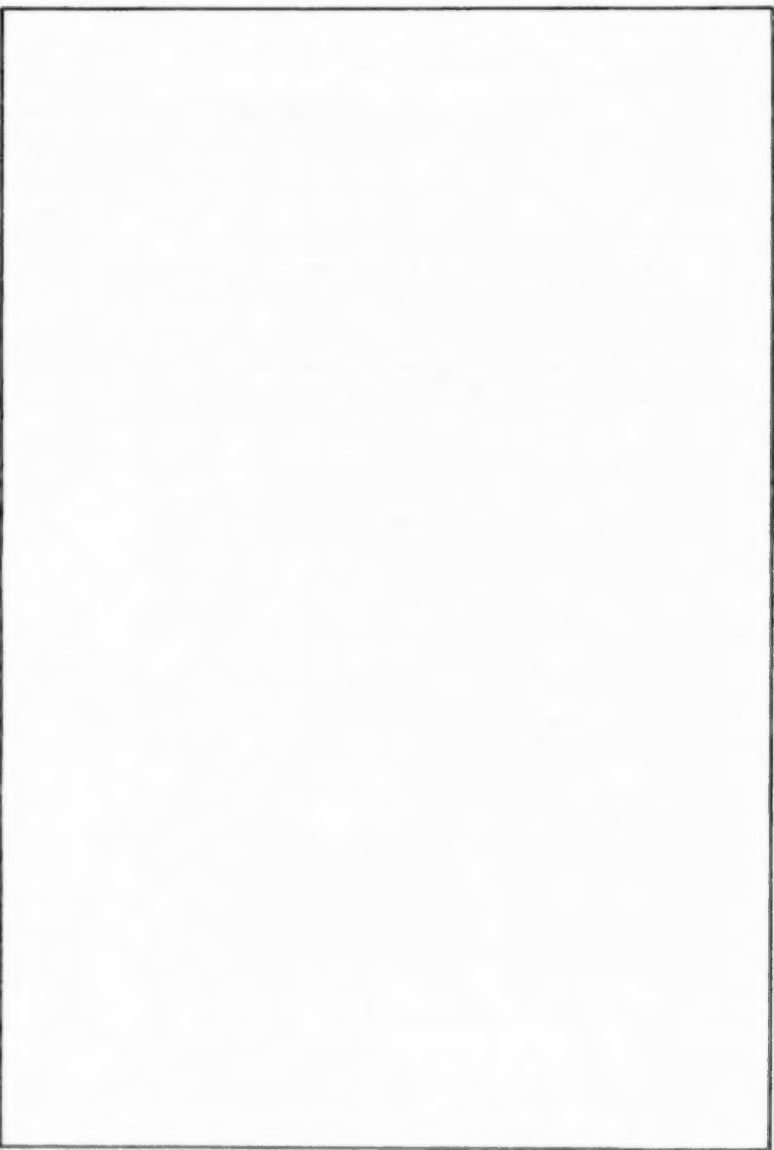


When broadcast treating rights-of-way, offset distance should be equal to the maximum height of woody vegetation growing at the right-of-way boundary. For example, if the off-site woody vegetation has a maximum height of 30 feet, Spike treatments should be offset a minimum of 30 feet from the boundary of nontarget vegetation.

HERBICIDAL EFFICACY AND RETREATMENT INTERVAL

Effective woody plant control from soil active herbicides, such as tebuthiuron, requires herbicidal activity to persist until carbohydrate reserves of the target plant are exhausted and death occurs. If soil herbicidal activity falls below the threshold necessary for a woody plant response before food reserves are exhausted, the target plant can survive. Most woody species have reserves which allow one or more unscheduled defoliations before survival of the plant is threatened. During the growing season following tebuthiuron application, woody plants typically undergo one or more defoliations. If plant food reserves are high or herbicidal activity is delayed due to lack of rainfall, additional defoliation events are observed prior to plant death during the second growing season. The persistence of tebuthiuron insures that susceptible woody plants receive sufficient herbicidal exposure from a single treatment to achieve control. Woody plant control with tebuthiuron is generally not adversely affected by lack of optimal growing conditions following application.

Retreatment using broadcast methods is generally not required with tebuthiuron. Commercial experience in controlling wood plants (1979 to date) indicates little or no need for retreatment except on a spot application basis. Spot treatment of reinvading plants may be required in 5 to 7 years. Species not susceptible to tebuthiuron may require spot treatment or broadcast treatment over small areas using a suitable alternative product 2-3 years following tebuthiuron application.



ALTERNATIVE PRODUCTS

Consideration of alternative herbicides for woody plant control, should take into account herbicidal spectrum, effectiveness under varying growth conditions, rate and number of applications required to maintain control. If alternative products exhibit a reduced herbicidal spectrum, require optimal conditions for efficacious results, or require repeat application for optimum control, the additional probability of drift, offsite damage and chemical loading of the environment associated with repeat application must be considered. In light of these alternatives the extended soil activity of tebuthiuron should be considered a positive attribute.

SUMMARY

The potential for offsite damage from use of tebuthiuron can be mitigated by appropriate treatment setback measures. Given that these measures are feasible and effective, the benefits of broad spectrum woody plant control from a single application are apparent. When considered in light of risks associated with repeat application of alternative products, the use of tebuthiuron does not appear to pose additional risks or liability to the user or the environment.



← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I prefer the forest to remain
in as with a condition
Why? as possible - absolutely no
use of chemicals & as little
fire use as possible - use

Comments on Alternatives:

1. Success to clear row's etc -

Why?

Alternative F would
be my choice - after

Other:

above comment -

Why?

J. J. Baker

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

James J. Baker
Name: First *James* Last *Baker* (Organization)
2324 Springdale Rd, SE
Street
Decatur, GA 30601
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 457

From: Sherwood A. Stewart

Comment No.

Response

- 1 Your preference for alternative F and your opposition to fire and herbicide use was included in the content analysis of all comments received. See response to comments in Letter No. 522, Comment No. 1.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Appalachians. They therefore have negligible effects on regional air quality the greenhouse effect, and ozone depletion (Draft EIS pages IV-121 to IV-122).

6 Oak Ridge Road
Asheville, North Carolina 28805
February 18, 1989

USDA Forest Service
WMT - Room 362 South
1720 Peachtree Road NW
Atlanta, Georgia 30367-9102

Gentlemen:

At a time when our forests are being damaged by air pollution and acid rain, it is unbelievable that the Forest Service would use herbicides to further the destruction.

1 Doing things the cheapest and easiest way has resulted in the present problems of pollution and waste disposal. The ecosystems that have evolved over the area "are necessary for maintenance of life as we have it on the earth." (Quotation from Fundamentals of Ecology by Eugene P. Odum.)

I have observed logging practices in the North Carolina mountains for at least 75 years, and lived in a lumber camp one summer when only crosscut saws were used. Though the forests were a source of beauty and wonder to me then, logging then was not of particular concern; it did not seem to take long for the forests to recover.

I believe that one of the first clearcuts was in the watershed of Curtis Creek in McDowell County, North Carolina. If a report on the present condition of that clearcut is available, I would appreciate having a copy.

Sincerely yours,

Gladstone W. McDowell
Gladstone W. McDowell

Response to Comments in Letter No. 458

From: Gladstone W. McDowell

Comment No.

Response

- 1 Your opposition to the use of herbicides was included in the content analysis of all comments received. Please also see response to comments in Letter No. 169, Comment No. 3.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

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Gladstone W. McDowell
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Response to Comments in Letter No. 458

From: Gladstone M. McDowell

Comment No.

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IN REPLY REFER TO
D30

United States Department of the Interior

NATIONAL PARK SERVICE
APPALACHIAN NATIONAL SCENIC TRAIL
HARPERS FERRY CENTER
HARPERS FERRY, WEST VIRGINIA 25425



February 16, 1989

Mr. Steve McCorquodale, Team Leader
Vegetation Management EIS Team
USDA Forest Service, Southern Region
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

Dear Mr McCorquodale:

Thank you for the opportunity to comment upon the Draft Environmental Impact Statement (DEIS) for Vegetation Management in the Appalachian Mountains. It is an exhaustive document providing a great deal of good background information that I am certain we will find useful as reference information in the future.

1 While I realize this document covers a broad area on ten national forests in the Appalachian Mountains, I think it would be appropriate to mention, probably in the chapter on the affected environment, that the Appalachian National Scenic Trail (A.T.) traverses this area for some 700 miles through the states of Virginia, North Carolina, Tennessee, and Georgia. The A.T. is a unit of the National Park System and a recreational resource of national significance. It has been further identified in the Forest Plans with its own management zone.

2 With regard to the preferred Alternative D, I have some concerns about the use of herbicides. The selective application of herbicides by ground methods for purposes of T&E habitat, other wildlife habitat, balds management and trail management is not dissimilar to what would be allowed under National Park Service policies. Herbicides are a tool that managers should have available to them to use at appropriate times to meet management objectives when other methods would not be effective. I am concerned, however, about herbicide use for road, utility, railroad and pipeline ROW maintenance, where both selective and broadcast methods would be allowed and aerial application is projected on 900 acres annually for utility and pipeline ROW maintenance. While I do not have an inventory of all such ROW crossings of the A.T. in the southern forests, I am certain there are a number of them. I recommend that mitigation measures to limit both broadcast and all aerial application of herbicide within 500' of either side of the A.T. be identified in the EIS, and not simply left to the site-specific environmental assessments. Only ground, selective methods should be allowed in this area, with the use of manual methods encouraged to the greatest extent feasible. This approach would appear to be consistent with the standards and guidelines for the A.T. Management Areas in the Forest Plans which call for a Visual Quality Objective of Retention (management activities are not evident) in the foreground.

Response to Comments in Letter No. 459

From: Charles R. Rinaldi

Comment No.

Response

- 1 We agree, it has been changed in chapter III of the Final EIS.
- 2 See response to comments in Letter No. 397.

3

My concern about the use of herbicides on or immediately adjacent to the A.T. extends to a concern for the safety of hikers. It is difficult to provide adequate notification of herbicide applications to the hiking public. I urge close consultation with the Appalachian Trail Conference and the local Trail club when any such project is proposed so that every effort to effectively provide notification to hikers can be made. Protection of water sources is also a matter of prime concern, which appears to have been adequately addressed in identified mitigation measures.

4

I support the balds management practices identified and the scope of the program described in Alternative D, where prescribed fire and grazing would be the principal methods used. This program compliments the Trail community's goal of fostering diversity in landscape through an active open areas management program. I would suggest, however, that the use of mechanical methods, even to restore balds through seedbed preparation, would be inappropriate within an A.T. management area because of the visual impact.

Thank you again for providing us with the opportunity to offer comment.

Sincerely,

Charles R. Rinaldi

Charles R. Rinaldi
Project Manager

cc: Dave Startzell, ATC

- 3 We certainly agree that close communications with the Appalachian Trail Conference and local clubs will be very important for all vegetation management activities occurring on or adjacent to the A.T. and feeder trails. Mitigation number 1 on page II-44 of the Draft EIS requiring site-specific analysis will also require public involvement and notification of proposed projects.
- 4 A detailed management and action plan is required for each bald (mitigation measure number 25, page II-52 of the Draft EIS). Part of the plan is coordinated with other users when proposing a particular action.

PO Box 1275
West Jefferson, NC 28694
February 16, 1989

Steve McCorquodale, Team Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, GA 30367

Dear Sir,

- 1 Thank you for the opportunity to comment on the DEIS for Vegetation Management for the Southern Appalachian Region. Nowhere was I able to find criteria for evaluating the different alternatives and choosing the preferred alternative. It is also unclear how this regional plan will be integrated with the many different Forest Land and Resource Management Plans. I am disturbed that this plan, prepared completely out of context from the LRM Plans, will automatically amend these plans. This is especially distressing considering that many LRM Plans are still under appeal and that the preferred alternative with its increased use of herbicides flies in the face of public opposition. Many of the issues being appealed, such as clearcutting, timber volumes, biological diversity and prescribed burning, have direct bearing on the different methods and the amounts of acreage to be affected. Changes of policy resulting from the settlement of any of these appeals could result in conflicts with this VM Plan.
- 2 It is also unclear how many acres on any particular forest will be affected by each of the VM methods described. This plan should clearly state the criteria to be used by forest managers in choosing one method over another. Since these decisions are made by the Ranger Districts each District should have an upper acreage limit or cap for each method. Without such caps there can be no effective monitoring of the implementation of any alternative.
- 3 Protection of rare, threatened, and endangered species is inadequate in this plan. The Forest Service has still not done base line population studies of the many RTE species it is suppose to be monitoring. Without this data the effects of the VM Plan cannot be evaluated. No formal surveys or assessments are done prior to Forest Service activities and Forest Service personnel in the field are untrained in the identification of RTE species. In North Carolina there is no formal process and very little communication with the NC Natural Heritage Program which identifies and monitors these species for the state. The Forest Service is understaffed with only one botanist for the entire region! The lack of basic data, process and staff mean that the effect of any vegetation management cannot be adequately monitored and will probably have a negative impact on RTE species.

Response to Comments in Letter No. 460

From: Ginny Lindsey

Comment No.

Response

- 1 See our response to comments in Letter No. 452, Comment No. 1. This EIS is intimately tied to Forest Land and Resource Management Plans. See chapter I, chapter II part A, and Chapter IV part A1 and part Q.
- 2 Since this is a programmatic EIS, projected acres are displayed for the entire Appalachian area, not for individual forests (Draft EIS page II-2). The area was divided into 8 landtypes to increase the precision of soil and water analyses (figure IV-3, Draft EIS pages IV-112 to IV-113), but most of these landtypes include parts of more than 1 national forest. The Regional Forester's Record of Decision accompanying the Final EIS will contain added direction on how the selective alternative must be implemented. A new mitigation measure has also been added (Final EIS page II-55) requiring annual accomplishment reporting and periodic reviews to ensure that the actual vegetation management program approximates the acre distribution of methods and tools estimated for the selected alternative.
- 3 Prior to any vegetation management treatment, projects will undergo site-specific analysis (mitigation measure number 1 on page II-44 of the Draft EIS) which determines appropriate methods and tools, intensity and selectivity of applications, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. This includes the examination and evaluation of a reasonable range of alternative methods, including the use of methods which do not involve herbicides. In order to prevent unknowing impacts on threatened, endangered, proposed, or sensitive species, regardless of the method or tool proposed for use, mitigation measure number 2 on page II-44 of the Draft EIS specifically states that when adequate population inventory information is unavailable, it will be collected when the affected site has a high potential for occupancy by a threatened, endangered, proposed, or sensitive species. Figure D-1 of the Final EIS traces the process required to insure adequate assessment of potential harmful effects. Mitigation measure number 9 on pages II-59 and 60 of the Draft EIS further protects these species from risk of adverse effects.

Species in appendix E of the Final EIS reflect the correct status of threatened, endangered, and proposed species as designated by the U. S. Fish and Wildlife Service in the Federal Register which are known to occur on national forest lands in North Carolina. Species known to occur on national forest lands in North Carolina which are identified by the Forest Service as sensitive also are shown. As the National Forests in North Carolina update their list of sensitive species, based on coordination with the State of North Carolina, this appendix will be updated. As stated in mitigation measure number 2 on page II-44 of the Draft EIS, coordination with appropriate State agencies will occur when a proposed project may adversely affect sensitive species.

Additional botanists/ecologists are being hired in the region. We anticipate that all forests will eventually have available at the forest or multi-forest level.

2.

4

The preferred alternative with its heavy reliance on herbicides could have significant impacts on RTE species. Plant species will be especially vulnerable as herbicides are generally unselective in their targets. But animal species may also suffer. It should be noted that these species are already under stress. That is why they are rare, threatened and endangered. The introduction of herbicides with so many unknown effects and which can contaminate not only selected but nearby sites due to drift and runoff could very well cause additional stress on RTE species.

5

Public concerns over the use of herbicides in our National Forests are well founded. All methods described in the VM Plan pose risks. However, manual and mechanical risks are known and often can be compensated for and overcome through training. Herbicides pose unknown risks to human health, wildlife and the environment. Despite the huge volume of data presented in the appendices, the fact remains that these products are poisons and are not safe. That is why EPA regulated them and studies them. According to your own summaries on mutagenicity, 2,4-D, 2,4-DP, and light fuel oil are considered mutagenic. Dicamba and fosamine have mixed test results, picloram needs further study and limonene has never been studied. Your summaries regarding carcinogenicity show that 2,4-DP and light fuel oils are carcinogenic, and picloram, limonene, fosamine, dicamba, imazapyr and 2,4-D have either not been studied, have not been studied adequately or the experts disagree. Studies on glyphosate has also yielded mixed results and its fate is still being debated. These examples show that there are many unknowns concerning herbicides. The public is concerned not with what is known about herbicides but with the unknown risks.

6

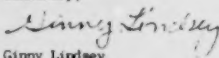
The DEIS pg. IV-68 gives a list of data gaps concerning the effects of herbicides on wildlife. This list shows that very little is known on the subject at all. It is very disturbing that with so little knowledge to go on that you would even attempt to do a risk assessment analysis on the subject of herbicide effects on wildlife. Such an analysis stacks assumption upon assumption in an attempt to reassure the public that you are being scientific, and it totally avoid incorporating the significance of data gaps into the evaluation of alternatives.

7

The public is also concerned about herbicide use because they run the risk of exposure. The DEIS(Appendices Vol. 2, pg. 5-10) assumes that herbicide use will be in remote areas away from recreationists, such as hikers and berrypickers. On the Pisgah Nantahala high timber volumes and increasing recreational demands are creating bitter conflicts already. An extensive road system leaves little of the forest in what could be called "remote areas" and these are often the areas most sought after by recreationists such as hikers and hunters. Therefore public exposure to herbicides through increased use is much more likely than the plan admits and will increase as recreation and timber demands increase. The unpopularity of herbicides will create new conflicts and make current ones more bitter.

The public cares not only about their own health but also the health of wildlife and the forest environment. The uncertainty surrounding herbicides is not good enough for our National Forests when other alternatives exist.

Sincerely,



Ginny Lindsey

- 4 We disagree. As indicated in table D-1, in the absence of any mitigation measures, herbicides do pose significant risk of toxic effects to threatened, endangered, proposed, and sensitive species. However, based on the hazard, exposure, and risk analyses for wildlife and aquatic species (sections 6, 7, and 8 of appendix A) and the determinations made in the Biological Evaluation (appendix D), the mandatory mitigation measures in chapter II of the EIS regarding inventory and site-specific analysis requirements; and herbicide selection, handling, application rates, application method selection, drift control, and buffers will adequately protect these species from adverse effects.
- 5 The risk of accident statistics presented in the Draft EIS are based on our current program which includes extensive safety training. Because of the hazards and exposure of vegetation management work, which has been following rigid safety standards for many years, we foresee no significant improvement in these statistics despite continued safety training. Nowhere do we conclude that the listed chemicals are human mutagens; we analyze the data as if this potential exists where questions have arisen in testing. The same comment applies to carcinogenicity; analyses of several products were done as if they were carcinogenic. Unknowns were modeled, and management conclusions were drawn from the analysis.
- 6 Analogy and modeling were used to predict behavior of the herbicides with respect to wildlife where data was unavailable or incomplete. Where this is done it is clearly noted. No attempt is made to avoid data gaps. See response to comments in Letter No. 480, Comment No. 3, for discussion on data gaps.
- 7 Not true. The risk assessment deals with very realistic but conservative estimates of exposure. For example, please see appendix A (page 4-19ff) which discusses berry pickers eating almost a full pound of freshly sprayed (no herbicide degradation at all) berries. Also see mitigation number 8 on page II-59 which requires care in timing applications to avoid any possibility of berry pickers eating sprayed fruit.

2.

- 4 The preferred alternative with its heavy reliance on herbicides could have significant impacts on RTE species. Plant species will be especially vulnerable as herbicides are generally unselective in their targets. But animal species may also suffer. It should be noted that these species are already under stress. That is why they are rare, threatened and endangered. The introduction of herbicides with so many unknown effects and which can contaminate not only selected but nearby sites due to drift and runoff could very well cause additional stress on RTE species.

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- 6 The DEIS pg. IV-68 gives a list of data gaps concerning the effects of herbicides on wildlife. This list shows that very little is known on the subject at all. It is very disturbing that with so little knowledge to go on that you would even attempt to do a risk assessment analysis on the subject of herbicide effects on wildlife. Such an analysis stacks assumption upon assumption in an attempt to reassure the public that you are being scientific, and it totally avoid incorporating the significance of data gaps into the evaluation of alternatives.

- 7 The public is also concerned about herbicide use because they run the risk of exposure. The DEIS (Appendices Vol. 2, pg. 5-10) assumes that herbicide use will be in remote areas away from recreationists, such as hikers and berrypickers. On the Pisgah Nantahala high timber volumes and increasing recreational demands are creating bitter conflicts already. An extensive road system leaves little of the forest in what could be called "remote areas" and these are often the areas most sought after by recreationists such as hikers and hunters. Therefore public exposure to herbicides through increased use is much more likely than the plan admits and will increase as recreation and timber demands increase. The unpopularity of herbicides will create new conflicts and make current ones more bitter.

The public cares not only about their own health but also the health of wildlife and the forest environment. The uncertainty surrounding herbicides is not good enough for our National Forests when other alternatives exist.

Sincerely,

Ginny Lindsey

Ginny Lindsey

- 4 We disagree. As indicated in table D-1, in the absence of any mitigation measures, herbicides do pose significant risk of toxic effects to threatened, endangered, proposed, and sensitive species. However, based on the hazard, exposure, and risk analyses for wildlife and aquatic species (sections 6, 7, and 8 of appendix A) and the determinations made in the Biological Evaluation (appendix D), the mandatory mitigation measures in chapter II of the EIS regarding inventory and site-specific analysis requirements; and herbicide selection, handling, application rates, application method selection, drift control, and buffers will adequately protect these species from adverse effects.
- 5 The risk of accident statistics presented in the Draft EIS are based on our current program which includes extensive safety training. Because of the hazards and exposure of vegetation management work, which has been following rigid safety standards for many years, we foresee no significant improvement in these statistics despite continued safety training. Nowhere do we conclude that the listed chemicals are human mutagens; we analyze the data as if this potential exists where questions have arisen in testing. The same comment applies to carcinogenicity; analyses of several products were done as if they were carcinogenic. Unknowns were modeled, and management conclusions were drawn from the analysis.
- 6 Analogy and modeling were used to predict behavior of the herbicides with respect to wildlife where data was unavailable or incomplete. Where this is done it is clearly noted. No attempt is made to avoid data gaps. See response to comments in Letter No. 480, Comment No. 3, for discussion on data gaps.
- 7 Not true. The risk assessment deals with very realistic but conservative estimates of exposure. For example, please see appendix A (page 4-19ff) which discusses berry pickers eating almost a full pound of freshly sprayed (no herbicide degradation at all) berries. Also see mitigation number 8 on page II-59 which requires care in timing applications to avoid any possibility of berrypickers eating sprayed fruit.



EAST CAROLINA UNIVERSITY

GREENVILLE, NORTH CAROLINA 27858-4353

SCHOOL OF
ALLIED HEALTH SCIENCES
TELEPHONE (919) 37-6961

February 16, 1989

Office of the Dean
Addiction Training Program
Behavioral Epidemiology
Community Health
Environmental Health
Medical Social Administration
Medical Technology
Occupational Therapy
Physical Therapy
Rehabilitation Studies
Speech Language and Auditory Pathology

Dear Sirs:

My graduate students and I have carefully reviewed your E.I.S. on vegetation management in the Appalachian Mountains and we have a few suggestions for your consideration. We are specifically concerned about the increased use of herbicides in alternative D. Right-of-ways and roadsides represent special habitats and corridors for many species of plants and animals. Recreational sites, wildlife habitats and bays are also special areas where the use of chemicals would increase food chain biomagnification and risk to organisms and humans. Perhaps mechanical means of vegetation control could be used at these sites and the herbicides reserved for timber management areas only. Also, saws may be attached to helicopters in some areas in lieu of aerial spraying of herbicides. Provisions should be made for containment of herbicides during equipment and personnel cleanup operations.

You plan to use class II herbicides (2,4-D) on a limited basis. Why not eliminate the use of this potentially dangerous class of chemicals completely? Also you mention the soil erosion caused by mechanical vegetation removal. However, this represents only about .01 tons/acre which is very low and acceptable for standard vegetation management.

Realizing that you address the multiple use objectives in your general management plan, we would like to suggest that a reduced emphasis on timber production on the slow-growing, multispecies hardwood forests on steep slopes, with poor soils in the Appalachian Mountains might be a better overall approach to this region. It would alleviate some of the pressures of using herbicides and might even be more cost-effective in the long run.

Finally, we wish to commend you on the excellent way that you utilize statistics, provide background information, and provide clear, understandable alternatives in your E.I.S. process. Thank you for considering our comments.

Sincerely,

Dr. Gary C. Smith
Associate Professor of Environmental Health
Graduate Students

Plus

GCS:h1

Response to Comments in Letter No. 461

From: Dr. Gary C. Smith

Comment No.

Response

- 1 Your concern about increased use of herbicides in ROW and roadside areas has been included in the content analysis of all comments received. The amount of herbicide proposed in alternative "Modified D" of the Final EIS is substantially less than the Draft preferred.
- 2 Due to short half-lives, rapid excretion rates, the infrequent use of herbicides on a given site, and the mitigation measures required in chapter II, animals are not exposed to amounts of herbicides capable of causing adverse effects resulting from chronic exposure. Disease, predation, and old-age are of more concern than exposure to low levels of herbicide.
- 3 At present, ganged circular saws suspended on a boom from a helicopter are being tested. Only one operator, that we know, is currently working with this system. Its use is limited to vertical trimming but certainly offers another opportunity for vegetation management.
- 4 These are required in the Forest Service Handbook and are taught as part of the training required by mitigation number 11 (page II-61 of the Draft EIS).
- 5 The primary purpose for retaining any use of Class B herbicides is for pest plant control for which, currently, no adequately documented alternative treatment exists. In the Final EIS, these type herbicides require Regional Forester approval and are virtually eliminated from use. Please see herbicide mitigation measure number 3 in chapter II of the Final EIS.
- 6 Low-disturbance mechanical tools used for site preparation (e.g., chopping) produce an average erosion of 0.39 to 1.07 tons per acre, depending on landtype (Draft EIS page IV-90, table IV-11). The rate would be higher if mechanical tools could operate on slopes steeper than 35 percent (Draft EIS pages II-24 to II-27). Erosion from low-disturbance mechanical tools is low, but slope limitations preclude their use for site preparation on most sites in the Appalachians. In addition, mechanical tools do not affect plants selectively as do manual tools or herbicides applied directly to individual plants.
- 7 The question of plant cover type is covered in the Forest Plans which this document complements. We have added a section to chapter I of the Final EIS that clarifies requirements of tools and their relationships to various activities, including reestablishing oaks and other mountain hardwood species.

February 15, 1969

USDA Forest Service, V.I.
Room 362 South
1720 Peachtree Road N.W.
Atlanta, Ga. 30347-9102

Gentlemen:

1 I wish to go on record as 100% opposed to the use of any herbicides in national forests in the Appalachians. "Vegetation Management" of any kind, other than on utility rights of way don't belong in our forests, and I am horrified to learn that aerial spraying has been going on.

I used to study pesticides for the West Michigan Pesticide Council, a group of entomologists from the University of Michigan, Michigan State, and several Natural Resources Dept. wildlife specialists. Herbicides, ~~pesticides~~ pesticides, and as such, ~~are~~ designed to kill. I am sure you no longer use Dordon or some of the herbicides contaminated with the carcinogen dioxin, but I have a healthy respect for all herbicides, nevertheless. They should never be broadcast over broad areas. "Minimal effects to our environment" repeated at intervals over a period of years, or over multiple acres of land add up to measurable effects on the environment, and anyone who visits our mountains or spends any time in the out of doors knows our wildlife. Under tremendous pressures from population encroachment, weather conditions, and other sources.

I urge you to spend the money you would save from herbicide use on reforestation. This might even help the depletion of the ozone we read so much about these days.

Thank you for giving consideration to my views.

Sincerely,

Susan T. Ruhl
Susan T. Ruhl

Response to Comments in Letter No. 462

From: Susan T. Ruhl

Comment No.

Response

- 1 Your opposition to herbicide use was included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1, 348, and 560.

Feb. 15, 1989

USDA Forest Service
Atlanta, Georgia

Gentlemen,

I became aware of the controversy regarding the use of Herbicides today via the Asheville Citizen Times newspaper.

I understand the need to do your very difficult management chores as effectively and inexpensively as possible.

Being among these individuals who are chemically sensitive, however, I am ¹ against using toxic Herbicides and polluting our environment.

My suggestion to stop the use of Herbicides is to call for volunteers (Youth Groups, _{over})

Response to Comments in Letter No. 463

From: Mrs. Billie Denise

Comment No.

Response

- 1 Your opposition to herbicide use was included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

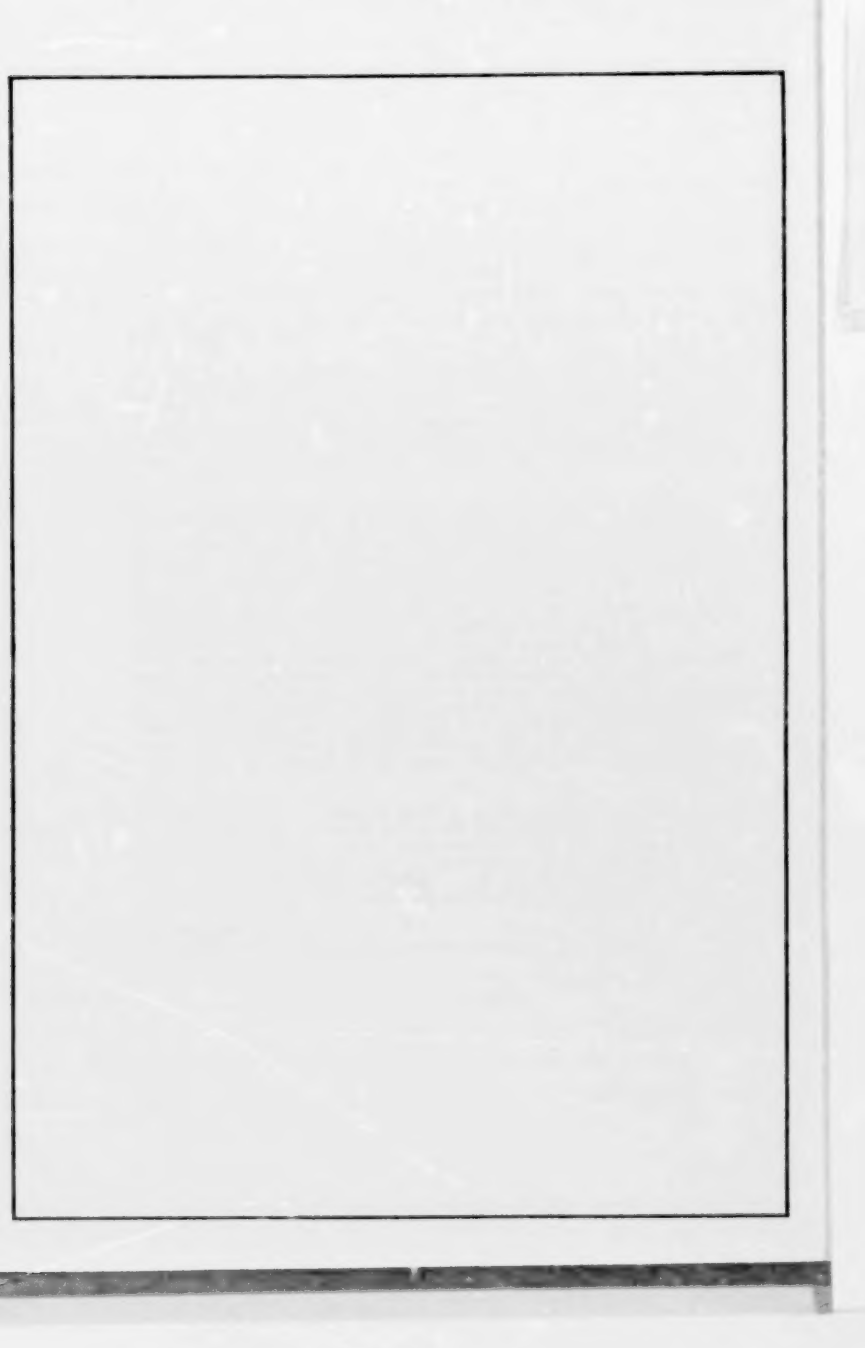
and Community Service
Groups, R.O.T.C. personnel,
etc.) to donate time and
effort to physically clear the
land in an orderly fashion.

Please seriously consider this
suggestion!

Let's all put forth extra
effort toward clearing up
our environment.

Sincerely,

Mrs. Billie Henice
1403 Timber Trail
Asheville, N. C. 28804



ATLANTA AUDUBON SOCIETY

P.O. Box 38214, Atlanta, Georgia 30334
404/321-6079

February 16, 1989



Mr. Steve Moorquand-Is
Leader, Vegetation Management EIS Team
USDA Forest Service, Southern Region
1720 Peachtree Road, N. W.
Atlanta, Georgia 30367
Dear Mr. Moorquand-Is:

Thank you for the invitation to review the Draft EIS, of Vegetation Management in the Appalachian Mountains. As you stated in the last paragraph, we can option not to use the prescribed form and you can be assured we will "try to be specific" and tell why each comment is being made.

Our areas of comment are grouped as follows:

1 Since by definition, (American Heritage Dictionary), "Vegetative" is an adjective of, pertaining to, or characteristic of plants or plant growth. In other words the entire forest would certainly include "trees", their growth and "timber harvest" as a major activity. Provisions for harvest methods (clear cut, selective cutting, etc.) as well as regeneration of even age stands are absent entirely from the DEIS. Also absent were provisions for plant diversity - mixed hardwoods and conifers, instead of an even aged stand of 1 species only.

2 On page 1-6 (Vol. I) of interest were the results of public comment concerns regarding the "methods" of management. The public voted in order of preference first, manual, second, mechanical, third, prescribed fire, and fourth, herbicides. Yet "Preferred Alternative D" uses fire and herbicides equal to 65% of manual acreage treated. Thus Alternative D reverses the preferences of public input. Do you feel the public trust was betrayed in this instance?

3 Of great concern to us is your extensive use of herbicides. Alternative D proposes to treat annually 34.3 thousand acres of herbicides or 26 % of the total annual acreage of 130,323. A quote from an article in the December, 1968 issue of Organic Gardening Magazine opening sentence reads: "Evidence is mounting that the most widely used herbicide in the world 2,4-D may cause cancer". If these herbicides you recommend, cause death to plants, it appears the same could happen to humans. And what effect does 2,4-D have on soil and the tiny microscopic organisms, some we don't even know about? For these reasons, our ~~is~~ solid to definitely rule out herbicide use and substitute other methods.

Response to Comments in Letter No. 464

From: Elmer Butler

Comment No.

Response

- 1 Pages I-2-4 in the Draft EIS give a detailed breakdown of items addressed in this EIS, and the section on unrelated comments on page I-7 addresses those activities unrelated.

Each Forest Land and Resource Management Plan discusses which silvicultural system and associated harvest cutting methods are appropriate, and where they are to be used, based on each forest's unique mixture of forest resources and public needs. As stated, the issue of silvicultural systems is outside the scope of this EIS. However, all of the methods and tools analyzed in this EIS are applicable and available for use, as specified by each alternative, regardless of the silvicultural system or associated harvest cutting methods identified in Forest Land and Resource Management Plans. It is incorrect to assume that under the uneven-aged silvicultural system that regeneration areas would have less site preparation following harvest than would regeneration areas under the even-aged silvicultural system. For either the even-aged or uneven-aged silvicultural system, site-specific analysis will determine appropriate methods and tools, intensity and selectivity of application, and the potential environmental effects of the methods considered based on project objectives, species requirements, and site characteristics. For example, vegetation management projects, with the objective of establishing the regeneration of a new age class, are designed to reduce plant competition, so that pine and/or hardwood seedlings receive needed amounts of sunlight, water, nutrients, and growing space in order to survive and grow, in both even-aged and uneven-aged systems.

- 2 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

Atlanta: Southern Vegetative Management comments continue--

4 Another great concern we have is the infestation of the Southern Pine Beetle; causing dead pine trees by the thousands. And in more recent times a dogwood blight has begun to threaten the life of one of our beautiful forest trees. Yet we find nothing in the way of comments in the NEDS regarding these catastrophes. Severe droughts in 1966, '67, and '68 would appear to have placed the forests in a stress condition, perhaps making these trees more vulnerable to the pine beetle. We offer further proof in support of the drought effect. Lake Bartwell, Lake Lanier, and Lake Allatoona, are all down 11' to 14' from capacity at this time and the forecast is bleak for months ahead. Of further note, Lake Lanier supplies water for half the population of Georgia, with a great part of its watershed in the Chattahoochee National Forest.

5 In Georgia, a Mountain Protection Act has now been introduced in the state legislature for 2 separate years to protect our forests in the northern part of the state. Opponents have pointed out that if the Chattahoochee National Forest were clear cut even a whole side of a mountain, why should they be restricted by zoning a 1 acre lot for a house site? The bottom line is, your anti-cutting practices are causing problems with protection of all other lands in the mountains and upper piedmont, from erosion, building on steep slopes and cutting of trees.

6 In Volume II, appendix F, Tables F-1, F-2, F-3, and F-4, contain animal and plant species listed by U. S. Fish and Wildlife Service as endangered, threatened or proposed, occurring on Appalachian Mountains National Forests. A separate listing was also made for "sensitive" animal and plant species. While we find few exceptions to the endangered, threatened or proposed listing of animal and plants, we are puzzled by the "sensitive" listing. First, as to the meaning of the term "sensitive". Does it mean, infrequent, rare, very rare, found in few habitats, or many habitats but few in number? Also do you have any plans for monitoring the effect of acid rain on plant or animal life environment? We found many species of plants on your list which were quite common and appear in plentiful supply. Many were omitted entirely from the Chattahoochee National Forest. How do you define "sensitive"? Second, may we now request further enlightenment on appendix F, and respond accordingly at a later future date following clarification?

Sincerely,

Elmer Butler
Elmer Butler, Forester-in-charge
Route 2, Box 2067
Clatsville, Georgia 30523

CC: Tom Hawks
Chattahoochee District Ranger
P. O. Box 196
Clatsville, Georgia 30523

- 3 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

We feel the analysis of 2.4-D in the Risk Assessment (appendix A) adequately addresses the effects. We have used this information to develop risk of exposure to both humans and wildlife (tables IV-1-6 and tables IV-13 and IV-14) in chapter IV of the Draft EIS. They are further classified on pages II-41 and II-42 as to level of risk. As a result, class B, C, or D herbicides will not be used on projects except with Regional Forester approval. See mitigation number 3 on page II-61 and II-62 in the Final EIS.

- 4 Insect infestations and their control were not within the scope of vegetation management. Please see page I-2 of the Draft EIS for a list of activities addressed. An extensive EIS has already been prepared that addresses southern pine beetle and is on file at this office.
- 5 Zoning is not within the scope of this EIS. See number 4 above.
- 6 In the Final EIS, we have a current listing of those species listed as either endangered, threatened, proposed, or sensitive. Please see the glossary, page VII-7, for a definition of sensitive species. In this case, we have coordinated extensively with the Natural Heritage and other scientists in the assessment of sensitive species.

H. Metzger
11 Williamson Rd
Horse Shoe, NC
28742

U.S.D.A. Forest Service
VMT Room 362 South
1720 Peachtree Rd, NW
Atlanta, Ga. 30367-9107

To forest management planners:

- I'm writing to oppose the spraying of herbicides in the National Forests. Future impacts of these toxic chemicals is unknown and their effect on human health
- 1 wildlife, plants and water systems has not been determined. We depend on national forests here as a reliable source of water, an increasingly valuable resource because of successive drought years. The chemicals the forest service plans to spray will eventually find their way into groundwater and municipal water supplies, compounding serious groundwater problems from agricultural pesticides, industrial pollution, etc. We do not need the agency that is charged with protecting and conserving our forests to compound this problem.

- I encourage the forest service to come up with
- 2 alternative forms of vegetation management. While you are at it - End below-cost timber sales! With our huge federal deficit, we can not afford to finance the plundering of natural resources that provide the basis for Western North Carolina's important recreation and tourism industry. Sincerely - E. ~~Thompson~~ Metzger 2-15

Response to Comments in Letter No. 465

From: E. Harrison Metzger

Comment No.

Response

- 1 Your opposition to herbicide use was included in the content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 The issue of below-cost timber sales is outside the scope of this EIS.

Many of the mitigation measures listed for herbicides on pages II-58-65 of the Draft EIS are designed to protect surface and ground water; specifically 28-32 address measures that will lower the risk of offsite movement.



16 February, 1989

To: Steve McCorquodale, Team Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, GA 30367

From: James Sullivan, Advisory Board
Rt. 4 Box 306
Toccoa, GA 30577

Concerning: Draft Environmental Impact Statement- Vegetation
Management in the Appalachian Mountains

This draft EIS was reviewed by the advisory board of the Friends of the Mountains. The following comments were formulated.

General Comments

1. To say that silvicultural methods and landscape-wide diversity are not issues here binds the process considerably. If the public is not comfortable with herbicides, or any other method, then silvicultural methods need to be used that don't demand herbicide use.
2. The vast majority of rural Appalachia is in early successional stages. Farm fields, hedges, and small wood lots support excellent populations of wildlife requiring early successional vegetation. The only opportunity for forests to develop into late successional stages is on public land. If the USFS is really interested in diversity it should be limiting vegetation management. The draft EIS does not consider long-term effects of vegetation management on understory and herbaceous species. For example, in volume I, page IV-59 cites Sterrett and Adams, 1977 concerning effects of herbicide treatment on understory diversity. A review of this reference shows that diversity is maintained only by new, early successional species such as the goldenrods at the expense of later successional species. The study covers only three years after treatment and makes no conclusions about long-term effects of canopy species manipulation on diversity.
3. There is very little conclusive data about the effects of herbicides on most wildlife species. Herbicides should not be used for wildlife habitat treatments. Acute toxicity is a poor indicator of the possible health and reproductive risks to wildlife by toxic chemicals. Exposure from aerial and broadcast applications may create risks about which we know nothing at all. Such applications will only add to our list of threatened and endangered species.

Response to Comments in Letter No. 466

From: James Sullivan

Comment No.

Response

- 1 See response to comments in Letter No. 392, Comment No. 2.
- 2 The concern with the decrease of late successional stage vegetation on a landscape or regional scale is important. We acknowledge the potential loss of presettlement vegetation types following certain treatments (intense mechanical treatment, in particular). In this EIS we have tried to provide information about treatment effects on individual sites. Planners and decision-makers at the District and Forest levels will apply the information to the maintenance of diversity, especially with regard to sensitive species and sensitive communities. Mitigation measure number 1 (Draft EIS, page II-44) recognizes the requirement for managing to maintain biological diversity.

The information you report concerning the Sterrett and Adams paper coincides with what is said in the Draft EIS. However, some long-term succession information is presented in the next paragraph to that cited.
- 3 Evaluating wildlife and aquatic species risk using LD₅₀ and LC₅₀ data is the method described by EPA in the EPA Office of Pesticide Programs' document "Hazard Evaluation Division--Standard Evaluation Procedure: Ecological Risk Assessment." For the EIS we have accepted and utilized this procedure. Additionally, the herbicides do not bioaccumulate (chapter IV, pages IV-56 and IV-59 of the Draft EIS and page 8-2 of appendix A), so cumulative effects are only likely where multiple exposures are received in a short period of time. We agree that acute toxicity is a poor indicator of possible long-term health and reproductive risks to wildlife. Where available chronic and subchronic toxicity tests are reported. Gaps in the data are acknowledged and modeling of surrogate species is used to estimate potential long-term effects.

page 2.



4. In Volume I, page III-28, Socio-economics, there is no clear identification of the segment of the local population involved in forest products from the National Forests. Identification of the population involved in the tourism industry is also lacking.
5. Aerial application of herbicides on utility corridors should not be allowed. Judging a 5 mph wind speed over a linear path across the mountains cannot account for up-drafts and other localized air movements. Unlike cropdusters that can get within a few feet of the vegetation, flying above power lines allows lots of room for off-site drift to occur.
6. While availability of funding was not taken into consideration, funds for monitoring of vegetation management effects and mitigation of adverse effects must be available before treatments are permitted. No monitoring and mitigation- no treatment.
7. Data gaps/research needs. In Volume I, page IV-150, seventeen research needs are listed. This list clearly shows that many effects of vegetation management are not well understood. The only vegetation management done in the next decade should be to fulfill these research needs.
8. Recovery plans for threatened and endangered species are needed. This need should be met before any vegetation or timber management proceeds. These species became endangered because little was known about the effects of land management and manipulation on resident wildlife and plant communities. Since little is being done on private and industrial forest land to aid in species recovery, it is very important that this receives priority on public lands.
9. The herbicide Tebuthiuron should not even be considered for use in the National Forest.
10. We feel that herbicides should only be applied by Forest Service personnel. These people could be hired and trained locally. Incidents of chemicals being left in the field and confusion over where to field rinse containers in the Chattooga District of the Chattahoochee NF leads us to this recommendation. While contract applicators are trained in mixing and application methods, they are often not familiar enough with specific procedures required on National Forest land. These problems would be eliminated using Forest Service personnel.
11. Manual methods will provide more jobs for local people and should be increased in the mix of methods.

The Alternatives

1. An adequate range of alternatives was not provided. An alternative addressing the public preference of methods should be presented. (manual, mechanical, fire,

4 The scope of economic analysis is based on early public comment during scoping when people said they desired a concentration on costs, but in a simplified way. Census data was used and is cited in figure III-3 and table III-10. We are uncertain of the benefits of evaluating tourism or local population relationships to products from national forests. Some of this data however, is available in Forest Plans and accompanying EIS's.

5 Conclusions presented by the commenter are inconsistent with the analytic results presented in chapter 4 of appendix A.

6 We agree.

7 Regulations in 36 CFR 219.28 require an ongoing process of identifying and prioritizing research needs. Regulations of the Council on Environmental Quality for Implementation of the National Environmental Policy Act recognize that all necessary data may not be available and that management may continue as research is done. Monitoring specified in section II.E (pages II-44 to II-66 in the Draft EIS) should assure that adverse impacts are held to a minimum.

8 Mitigation number 7 page II-59 of the Draft EIS will essentially eliminate the possibility for use of three of the evaluated herbicides.

9 Problems of the type you describe within contract application are the responsibility of the COR (Contracting Officer's Representative). Any information relative to misapplication should immediately be brought to the attention of the COR. Mitigation number 12 (page II-61 of the DEIS) strengthens our commitment to ensuring proper herbicide handling and application by contract crews.

10 Please see response to comments in Letter No. 22, Comment No. 1 and Letter No. 57, Comment No. 3.

11 The Interdisciplinary Team felt that in the Draft EIS an adequate range of alternatives was developed to assess the effects of the various vegetation management methods and programs. As a result of public input, three additional alternatives were evaluated of which two were analyzed in detail. One very similar to the one suggested that had considerable less prescribed fire and herbicides was evaluated and is shown as alternative "I" in the Final EIS.

12 Your provisional support for alternative B was included in the content analysis of all comments received. All alternatives have advantages, and disadvantages. Each person using a unique set of values looks for advantages that fit those values. The Forest Service's preferred alternative represents hundreds of value sets and also allows for accomplishment of Forest Land and Resource Management Plan goals and objectives. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public. Please see response to comments in Letter No. 261, comment No. 2.

page 3.



herbicides).

12

2. Alternative B provides a more conservative approach to vegetation management. It is more suitable for public lands than the preferred alternative.

A. The good points of Alternative B.

1. The acreage treated for timber stand improvement and site preparation is low.
2. The use of herbicides is low.
3. No herbicides are used for wildlife habitat treatments.
4. No aerial applications of herbicides.
5. Lower sediment yield.
6. Mid-Late successional species are favored.

13

B. The bad points of Alternative B.

14

1. Livestock grazing on mountain balds is unnecessary. It is also not a very selective management tool.

15

2. More manual and less mechanical methods should be used. Even low disturbance mechanical methods cause more damage to the soil and ground level species than manual methods, and should be very limited in the mountain environment.

16

3. It is not necessary to restrict wildlife habitat treatment to occurrence of seriously limited populations. Only the methods used for treatment should be restricted. Habitat improvements can just as easily be made with the methods available in Alternative B, and at lower risk to the present populations and other resources.

Conclusion

The National Forests in the Appalachian Mountains should provide the growing population with resources not available on private land. Primitive and semi-primitive settings should be favored, as well as late successional wildlife species. The National Forest should be a very different place compared to private and industrial forest land. What is most endangered by vegetation management, as well as intensive harvest methods, is the potential to have a few natural forest environments remaining in the future. This potential is gone from private and industrial forest lands. Only on our public lands can we see this potential realized.

Sincerely, James Sullivan, Secretary, Board, Friends of the Mountains

- 13 Selective herbicide use is recognized by the U. S. Fish and Wildlife Service as a valid tool for improving the habitat of the red-cockaded woodpecker by removing encroaching midstory and understory hardwoods. Consultation is currently underway with FWS concerning herbicide use for improvement of gopher tortoise habitat. Concurrence by the FWS must be obtained before starting any habitat improvement project that "may affect" (including beneficial effects) any threatened or endangered species. Likewise, they can be valuable to release competing vegetation from key wildlife plant species. See pages IV-72-75 of the Draft EIS.
- 14 Grazing by elk, bison, and later by pioneer settlers' livestock has been a historical element on grassy balds, and in conjunction with other methods plays a role in maintaining the grass ecosystem of a few larger balds. See pages IV-60-62 of the Draft EIS.
- 15 Disturbances, even though greater than manual, usually are temporary when using low disturbance mechanical tools with care. On the down side with manual methods increased, both accident frequency and severity increase to forest workers. See pages IV-27-30 of the Draft EIS.
- 16 It was necessary to restrict all activities when developing this alternative because of its theme of reduced and restricted vegetation management. When restricted, their priorities to treat habitat for limited populations was incorporated. In the Forest Land and Resource Management Plan process, more expanded habitat treatments were incorporated to meet wildlife habitat and other resource needs. This is one of the negative aspects of alternative B when comparing to alternatives constructed at higher levels.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Elisha Mitchell Audubon Society

AMERICANS COMMITTED TO CONSERVATION



Feb. 15, 1989

Dear Sirs;

1 I am writing on behalf of the over 600 members of the Elisha Mitchell Chapter of the Audubon Society. Regarding the Vegetation Control E.I.S. released by the Forest Service, we deplore the use of Alternative D and its dependance on herbicides and burning to clear our public land. The increased use of herbicides in particular is in direct contradiction to public safety and sentiment. By your own admission, the overall combined toxicity and effect of these chemicals is

2 a total unknown.

We urge you to reconsider your decision and adopt a program relying primarily on manual and mechanical means.

Sincerely,

Miles Tager

Conservation Chair

Response to Comments in Letter No. 467

From: Miles Tager

Comment No.

Response

- 1 Your opposition to alternative D was included in the content analysis of all comments received. Please see comparison of alternatives (Draft EIS pages II-67-83) and summary of impacts by alternatives (Draft EIS pages IV-130-150).
- 2 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.



NIWASSEE LAND COMPANY

P.O. Box 100
Atlanta, Georgia 30301

February 10, 1989

USDA Forest Service
1720 Peachtree Road, NW
Atlanta, Georgia 30367

Attention: Room 362S
Draft A.M.

Dear Sir:

1 In response to your Draft Environmental Statement regarding Vegetation Management in the Appalachian Mountains I strongly favor alternative H. When the forested acres are cut within the mountains controlled by the USFS it seems logical that a desirable stand of timber should replace them. Alternative H is the only method which will insure such stands will be regenerated.

My feeling regarding the management plan of the USFS is still to encourage a "Multiple Use" approach for all National Forest lands.

Thank you,
Stan Malone
STAN MALONE
Senior Forester

SM/keb

Response to Comments in Letter No. 468

From: Stan Malone

Comment No.

Response

- 1 Your preference for alternative H was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

130 Cogd. 11 Rd
Knoxville, TN 37922
February 10, 1989

USDA Forest Service
1720 Peachtree Rd., NW
Atlanta, GA 30367

Dear Sirs,

I am writing to comment on the Southern Regional
Appalachian Mountain Vegetation Management EIS

- 1 After considering all the alternatives and the
expected effects of these alternatives, I request that
you select Alternative B. I prefer this alternative
because:
 - 2 1) Vegetation management is an inherently destructive
and risky activity. Alternative B minimizes the
risk and destruction of natural forest values while
meeting minimum resource protection requirements.
This is obviously the optimum level of vegetation management.
 - 3 2) Alternative B is the least costly alternative (except A),
by some \$5 million per year. Given the state of the
Federal deficit, there can be no justification for these
larger unnecessary expenditures.
 - 4 3) The frequency of vegetation management treatment on
roads and utility corridors is lower under Alternative
B. The fact that these roads and corridors can
be acceptably maintained at this lower frequency means
they should not be treated more often because there
is very little benefit in doing so.

Response to Comments in Letter No. 469

From: Lance McGold

Comment No.

Response

- 1 Your preference for alternative B was included in the content analysis of all comments received. Also please see response to comments in Letter No. 261, Comment No. 2.
- 2 The analysis in chapter IV has shown that effects of vegetation management can be minimized and managed with acceptable risks if mitigation measures in chapter II of the Final EIS are followed.
- 3 While the costs of alternative B are less than all alternatives except alternative A, its outputs do not achieve the objectives and outputs represented by the Forest Land and Resource Management Plans. These Plans resulted after several years of public involvement on analysis of resource capabilities to achieve the best balance of resources following the laws governing Forest Service management.
- 4 The frequency of treatment on corridors depends greatly on the desired objective. If sight distances on a winding road are impaired by plant growth, then long frequencies may have adverse safety effects. However, if the objective is developing shrub communities on a utility right-of-way for wildlife, then a longer frequency may be more effective.

5 Whatever alternative you select I prefer that you eliminate livestock grazing. As you note, livestock are destructive. I recommend you approach conservation and hiking organizations, like the Southern Appalachian Highlands Conservancy and the Appalachian Trail Club, to help you with bald maintenance. They have an interest in bald maintenance and would very likely be willing to help at a cost lower than if the Forest Service does maintenance itself.

6 This EIS is legally deficient because it does not evaluate the cumulative effects of vegetation management with other forest activities like timber harvests and road building. The EIS should project the long-term log even when a more timber harvest restoration effects of timber harvests and vegetation management. ~~The~~ The EIS should tell what the long-term effects of intensive timber harvest/vegetation management will be.

It would not be enough to talk about classes of vegetation. Lady slippers will respond differently than painted trillium. Different types of ferns will respond differently. The long-term, cumulative effects on non-commercial tree species, like black walnut, hickory, persimmon, sourwood and so on, must be analysed. What will the effects be on rhododendrons, dog holly, huckleberries and other forest shrubs?

- 5 Grazing by bison and elk originally and by livestock with early settlement has been a part of bald ecosystems. In present day, grazing is only practical for one or two balds such as on Mt. Rogers National Recreation Area in Virginia. The appropriate methods for each bald will be determined by a site-specific management plan required in mitigation number 25, page II-52 of the Draft EIS. Please see response to comments in Letter No. 378, Comment No. 3.
- 6 Each Forest Land and Resource Management Plan specifically analyzes and addresses the effects of silvicultural systems, harvest cutting methods, and road construction activities. The Appalachian Draft EIS considers the cumulative effects of single and multiple tools over time and space, and where applicable, long-term effects of harvest and/or road building in concert with post-harvest activities such as site preparation for reforestation. For example of discussions relating to harvest and roading effects for wildlife see Draft EIS pages IV-64-66; for soils and water see Draft EIS page IV-95 ("Harvest may increase bulk" paragraph) and pages IV-109-111, and full discussion on page IV-114; for vegetation see Draft EIS pages IV-49 (section 2.a.) and page IV-52 (last paragraph). In addition, some of the activities occur in areas designated as not suitable for timber production (such as most of the Appalachian Trail and balds maintenance, recreation site maintenance, road rights-of-way, and utility corridors. Long-term studies were cited, and where lacking, the research need for additional long-term studies, including multi-rotational studies, was identified in the Draft EIS (pages IV-150 and -151, especially number 13). Numbers 4, 5, and 14 also reflect our awareness of the concerns you expressed.

Please see also response to comments in Letter No. 394, Comment No.s 13 and 14, which respond to the need for site-specific or species-specific analysis within this EIS.

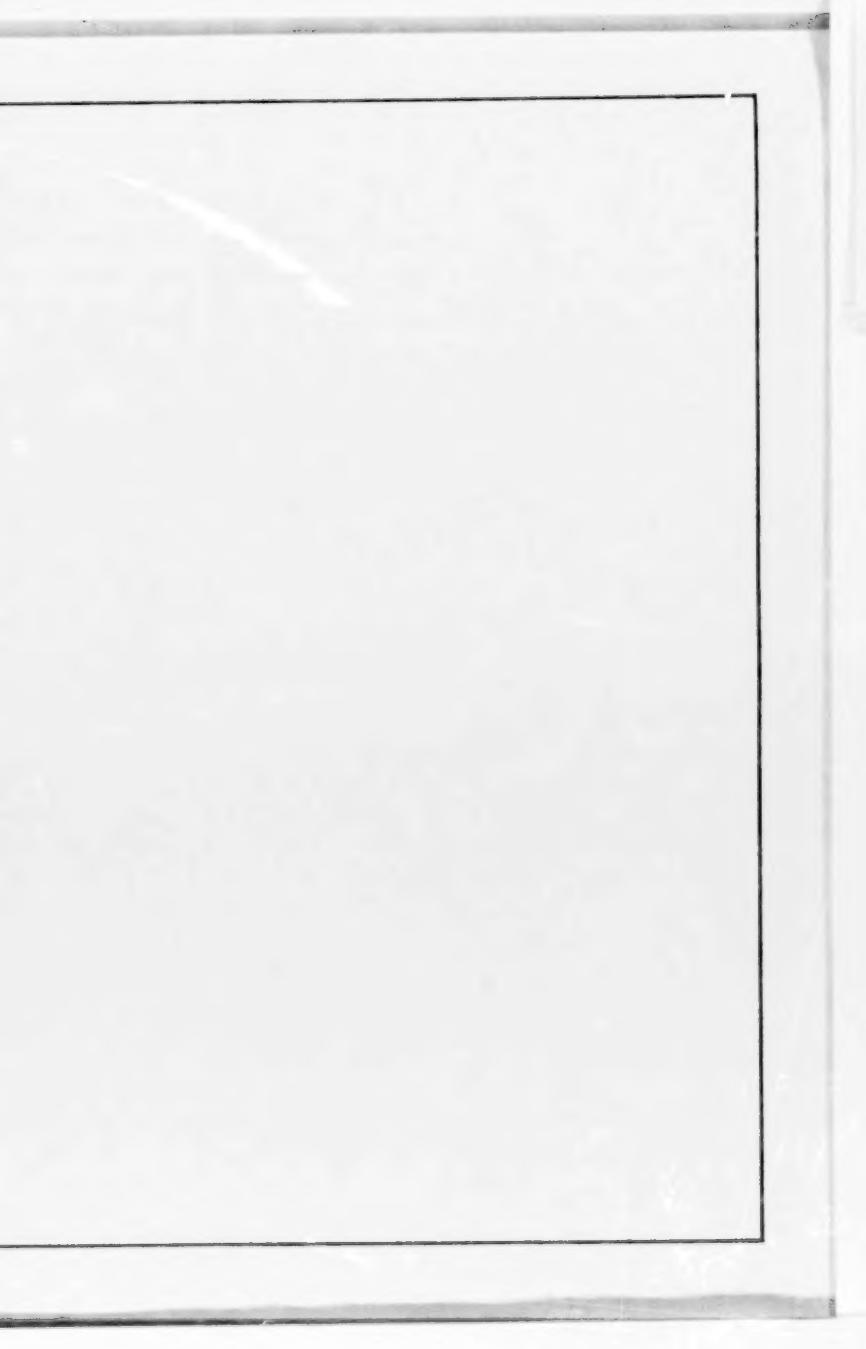
This EIS does a good job examining the human risks of herbicide use. It makes an interesting attempt to assess the direct effects of herbicide on wildlife. It fails, however, to assess the ~~effects of vegetation management on~~ cumulative effects of vegetation management and other forest activities on wildlife. Particular attention should be given to non-game wildlife, like song birds, salamanders, foxes and others.

Thank you for your diligent work on this EIS. Thank you for considering my ~~own~~ comments.

Sincerely,

Lance McCall

Lance McCall



SOUTHERN APPALACHIAN HIGHLANDS CONSERVANCY (incorporated)

P. O. BOX 3346 - KINGSFORD, TENNESSEE 37664

February 12, 1989

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Stanley A. Murray

Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Road, NW
Atlanta, GA 30367

Dear Team Members:

In response to the Draft Environmental Impact Statement on Vegetation Management in the Appalachian Mountains, SANC is primarily concerned with a 23,000 acre area spanning the Tennessee/North Carolina state line on the Roan Mountain massif. For over two decades we have worked with the Cherokee and Pisgah National Forests, as well as state and private agencies, in the acquisition and management of the lands known as the Highlands of Roan.

The Highlands of Roan have been designated in the Management Plans of both the Cherokee and Pisgah as a Special Management Area, not subject to timber management. Regarding vegetation management, of major concern to us is the management of Roan's grassy bald communities and rare species of flora and fauna found throughout the massif. Four Forest Service Challenge Grants have been awarded to projects designed to study and manage the Roan's grassy bald complex. Cooperators include the Tennessee and North Carolina Departments of Conservation, the U. S. Fish and Wildlife Service, SANC, the Appalachian Trail Conference, and Wake Forest University. Management recommendations from this research team are site-specific and involve mechanical, manual, and biological techniques. Due to the abundance of blackberries, fire is not recommended at this time. Herbicide treatment is recommended only in the case of applications to stumps of sprout-prone species.

I was peripherally involved in the herbicide and mechanical study referred to on p. IV-60 though did not participate in the analysis. Our research team does not concur with the conclusion of the report that "mechanical cutting was ineffective in controlling blackberries." In this study, only one cutting was done and that was in the fall, after the growing season. Our findings indicate that cutting, whether mechanical, manual, or grazing, is the effective method for blackberry eradication if done during the growing season. Multiple cuttings are required during the first season of management. Two years following the study in question, grasses, sedges, and mosses were still dead in the herbicide plots. The effects of herbicides on micro-fauna are not known. We recommend against herbicide treatment of blackberries.



SOUTHERN APPALACHIAN HIGHLANDS CONSERVANCY (incorporated)

P O BOX 3356 — KINGSFORD TENNESSEE 37664

PRESIDENT

Carol T. Coffey

VICE-PRESIDENT

A. Murray Evans

SECRETARY

William E. Martin

TREASURER

Edward U. Blum

February 12, 1989

Steve McCorquodale
Leader, Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N. W.
Atlanta, GA 30367

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Dear Steve:

I am responding to the Draft FIS on behalf of Stan. On 1/31 he underwent surgery for a brain tumor and is now undergoing radiation therapy. He has taken a semi-leave of absence from his duties as Executive Director to concentrate on getting well. He is doing incredibly well, and his indomitable will and optimism continue to inspire us all.

SAHC was not on the DFIS mailing list (though we may have received an announcement.) I have just received a copy. I am concerned about some of the others who also were not on the list. Most of the colleges and universities involved in study and research in the North Carolina and Tennessee Appalachians were not included. These are folks who would be in a critical position to evaluate effects of management on flora and fauna, and I feel that to include them in the process is vital.

I request an extension on response time with copies of the DFIS sent to the following:

UTC, Chapel Hill, NC, Attn: Drs. Al Radford and Robert Feet
Duke Univ., Durham, NC, Attn: Biology Dept.
Wake Forest, Winston-Salem, NC, Attn: Dr. Peter Weigl
Appalachian State Univ., Boone, NC, Attn: Biology Dept.
East Tenn. State Univ., Johnson City, TN, Attn: Drs. John Warden and Fred Alsop
Watts Hill College, Watts Hill, NC, Attn: Dr. Don McLeod
Warren Wilson College, Swananoa, NC, Attn: Biology Dept.
Univ. of Tenn. (was on list, probably Ag. College), Knoxville, TN, Attn: Drs. Murray Evans and Edward Clebsch
Long Branch Environmental Education Center, Rt. 2 Box 112, Leicester, NC 28748

Many thanks, Steve.

EXECUTIVE DIRECTOR

Shirley A. Murray

Sincerely,

Carol T. Coffey
Judy Murray

Response to Comments in Letter No. 470

From: Judy Murray

Comment No.

Response

-
- 1 About 13,000 people were initially contacted regarding their interest in this project. Many universities throughout the Region, including North Carolina and Tennessee were included in this contact. Those names retained on the mailing list represent all who either submitted comments or who asked to receive future mailings.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

2

On the subject of grassy bald management, I am familiar with the study plots referred to on p. IV-60 and do not concur with the conclusion that "mechanical cutting was ineffective in controlling blackberries." (See attached letter, paragraph 3.) Our findings on the same mountain indicate that cutting, whether mechanical, manual or biological, is the effective method for blackberry eradication.

Why? In this study, only one cutting was done, and that was in the fall, after the growing season. Cuttings should be done during the growing season, and multiple cuttings are required during the first season of management.

Comments on Alternatives:

3

We cannot support Alternative D with regard to our special concern for grassy bald community and rare species management. Alternative D emphasizes fire which encourages blackberries. Nor do we support the use of herbicides in bald management except in direct application to stumps of sprout-prone species. We favor Alternative E.

Why? Alternative E supports our recommendations for bald management: mechanical, manual and biological. (See attached letter.)

Other:

On a Forest-wide basis, we find serious problems with Alternative F. We support Alternative E.

Why?

Alternative E is far more ecologically responsible than Alternative D. The Forest Service is in a position for setting an example for the nation in promoting a clean healthy environment. Adding more chemicals to our land, water and air is not moving us in the right direction.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Judith B. Murray, So. App. Highlands Conser. (SANC)

Name: First MI Last (Organization)

Route R, Box 414

Street

Kingsport, TN 37664

City

State

Zip Code

← Tear at perforation

- 2 Comment noted. The summary of the study plots clearly states that the least effective treatments were cutting (either manually or mechanically). However, the timing of the treatment is an important point. The text on page IV-60 of the Draft EIS has been revised in the Final EIS to state that mechanical cutting during the growing season may be more effective than at other times. This point was clearly stated in the chapter IV section on the effects of mechanical methods on Appalachian Mountain balds, page IV-53 and IV-54 of the Draft EIS.
- 3 Your preference for alternative E was included in the content analysis of all comments received. See also response to comments in Letter No. 408, Comment No. 6; and Letter No. 281, Comment No. 7.

Vegetation Management DEIS, p.2

2/12/89

4 Based on our observations, we do not favor Alternative D with regard to management of grassy bald communities because of its emphasis on fire and increased useage of herbicides. The Challenge Grant research team has recommended to the Forest Service a regime of mowing, hand cutting, and grazing for the Roan complex. SANC feels that Alternative E more nearly approaches these recommendations for grassy bald management.

5 There is one utility corridor within the Highlands of Roan, and we strongly oppose herbicide use in this corridor. Aerial use is out of the question.

6 Our remarks have been specific to the Highlands of Roan, but we feel compelled to make a broader observation regarding herbicide use in the National Forests. You have gone to great lengths to build a case for their use and as far as to recommend herbicide treatment for 26% of the acreage to be managed. However, most biologists are extremely conservative in their endorsement of herbicide use in natural communities. Most herbicide research is conducted by the industry on agricultural weeds and species seldom found in the natural community. The time has arrived for cleaning up our environment rather than adding more chemicals to it.

We sincerely hope that you will reconsider your selection of Alternative D. We recommend Alternative E.

Yours truly,

Judith E. Murray
Land Stewardship Director

- 4 The EIS does not allocate tools to specific forests, projects or sites. Where existing negotiated or researched site specific project plans exist which fall within the environmental limitations in this EIS, we foresee no need for modification of those plans.
- 5 In the Final EIS, criteria for aerial application is such that only rugged, remote, uninhabited utility rights-of-way where other methods are not practical qualify for treatment. Approximately 400 acres in the seven-state area are expected to meet this rigid criteria. You should contact the District Ranger responsible for the mentioned right-of-way to discuss specific concerns for type of treatment.
- 6 Herbicides are recommended only after a site-specific analysis is completed that will compare its use with other methods and tools. Each project should have a tool or tool combination to match the existing conditions. Please see response to comments in Letter No. 170, Comment No. 2.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

ENVIRONMENTAL DEFENSE FUND

North Carolina Environmental Defense Fund
128 East Hargett Street
Raleigh, NC 27601
(919) 821-7793

February 13, 1989

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Mr. Steve McCorquodale
Team Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., NW
Atlanta, GA 30367

Dear Mr. McCorquodale:

Please enter these comments into the record for the draft environmental impact statement entitled, "Vegetation Management in the Appalachian Mountains." We appreciate the opportunity to comment on this very important aspect of public policy decision making, with substantial repercussions for our critical natural lands.

Generally, the U.S. Forest Service must be commended for the extensive technical analysis conducted during the drafting of this document, as stated previously during review of the companion document for the coastal and piedmont regions. We congratulate you on the continuing commitment you are making in this public process.

We continue to have severe reservations about the alternative selected as the "preferred" course of action, for the same general reasons identified in our letter of August 31, 1988 on the coastal EIS. Expansions in the use of herbicides, especially aerially applied, are clearly not indicated when practicable alternatives exist. Unfortunately, herbicides are generally unselective, and species of critical importance to our natural heritage will be affected, even when materials are carefully applied by hand. While we recognize that herbicides must sometimes be used, the trend should be towards reduced not expanded use.

Our other main criticisms of the EIS mirror comments made previously about the coastal/piedmont document:

- 1) Alternatives listed seem arbitrary in the proposed mix of v.m. methods, and are not exhaustive;
- 2) Implementation of the procedures described on a forest-by-forest basis may result in average application of v.m. methods greatly different from that evaluated here. Criteria for the use of each method or caps on the use of the controversial methods are essential; and

1



National Headquarters
257 Park Avenue South
New York, NY 10010
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2

1616 P Street, NW
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3

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Oakland, CA 94618
(415) 658-8008

1108 East Main Street
Richmond, VA 23219
(804) 780-1297

EDF's Recycled Paper

Response to Comments in Letter No. 471

From: Dr. Douglas M. Radar

Comment No.

Response

- 1 As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1 and Letter No. 480, Comment No. 6.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

- 2 Alternatives were developed in response to public issues and management concerns. To provide clear distinctions between alternatives, several factors are varied, such as methods available, intensity of treatments, frequency of treatments, total acres treated, and acres treated by any specific method. In the Final EIS, we either analyzed or considered three additional alternatives and have explained the basis for each alternative (section II.B).
- 3 We have added mitigation measures that require both reporting and management reviews to assure adherence to the decision in the EIS and Record of Decision (Final EIS page II-55).

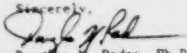
Mr. Steve McCorquodale
February 13, 1989
Page 2

- 4 3) The lists of potentially impacted species are incomplete (although better than the earlier coastal document). The attached table lists other plants known or suspected to be present. Again, the N.C. Natural Heritage Program should be contacted for advice on the known locales for sensitive plants and animals: no herbicide application should occur near such areas.

SUMMARY

- 5 As is the case with the draft coastal/piedmont v.m. EIS, the technical analysis in the document does not support the proposed increase in the use of herbicides in vegetation management. Manual, mechanical and prescribed fire methods accomplish the same objectives without the unacceptable environmental impacts. The increased risk of negative impacts on sensitive species and community types in the North Carolina mountains is not technically or economically defensible. We recommend a restructuring of the EIS to include specific criteria for the application of each type of vegetation management, and estimates of the maximum areas impacted by each. We strongly recommend against the use of herbicides at all near sensitive areas, and also against aerial application of those materials in any mountain national forests. "Pesticide Prohibited Zones" should be identified now, and updated periodically, by contacting the Natural Heritage agency in each affected state.

Thanks for the opportunity to comment on this important document.

Sincerely,

Douglas M. Rader, Ph.D.
Senior Scientist

cc. Chuck Roe, NC NHP
L.K. Gantt, US FWS
Lark Hayes, Southern Environmental Law Center
Allen Spalt, Agricultural Resources Center

- 4 We have been diligently working with each State and have updated the lists. We also realize this list may be updated as new species are added. We have added all the species on your list except the following.

Clematis glaucophylla - does not occur on NF lands
Hexastylis contracta - does not occur on NF lands
Scutellaria saxatilis - does not occur on NF lands
Synandra hispidula - does not occur on NF lands
Zigadenus glaucus - does not occur on NF lands
Cardamine rotundifolia - does not occur on NF lands
Carex barrattii - does not occur on NF lands
Marshallia grandiflora - does not occur on NF lands
Oenothera perennis - does not occur on NF lands
Platanthera integrilabia - does not occur on NF lands
Echinea purpurea - does not occur on NF lands
Listera cordata - does not occur on NF lands
Cleistes divaricata - not on list in North Carolina
Cypripedium acaule - not on list in North Carolina
Cypripedium calceolus - not on list in North Carolina
Cypripedium reginae - not on list in North Carolina

- 5 The EIS shows conclusively that alternative Modified D improves the effectiveness and quality control of our vegetation management treatments while posing minimal risks to people and the environment (Final EIS sections II.H and IV.N). It causes no unacceptable environmental impacts. Application of least-risk herbicides at lowest effective rates using drift-control and safety measures and buffers (Final EIS section II.E.2.c), with 90-100 percent selective treatments in the general forest (Final EIS page II-11), poses minimal risks of adverse effects. Criteria for applying each method appear as mitigation measures (section II.E) and potential acres for each are shown in section II.B.

SENSITIVE VASCULAR PLANTS IN NATIONAL FORESTS
IN NORTH CAROLINA'S MOUNTAINS

I. Known to Occur or Believed to Occur, Listed on Plant Conservation Program
Element List, But Not Listed From NC in EIS

<u>Adiantum fungosa</u>	Climbing Functory
<u>Carex albers</u>	Wretched Sedge
<u>Carex purpurifera</u>	Purple Sedge
<u>Carex woodii</u>	Wood's Sedge
<u>Clematis glaucophylla</u>	White-leaved Leatherflower
<u>Disporum maculatum</u>	Nodding Mandarin
<u>Hexastylis contracta</u>	Mountain Heartleaf
<u>Lilium philadelphicum</u>	Wood Lily
<u>Lycopodium porophyllum</u>	Rock Clubmoss
<u>Lycopodium selago</u>	Fir Clubmoss
<u>Meehania cordata</u>	Meehania
<u>Monotropis odorata</u>	Sweet Pinesap
<u>Panax quinquefolium</u>	Ginseng
<u>Parnassia grandifolia</u>	Large-Leaved Grass-of-Parnassus
<u>Prenanthes roanensis</u>	Roan Rattlesnakeroot
<u>Scirpus cespitosus</u>	Deerhair Bulrush
<u>Scutellaria amantilis</u>	Rock Skullcap
<u>Silene ovalis</u>	Mountain Catchfly
<u>Spiraea virginiana</u>	Virginia Spiraea
<u>Streptopus simplexifolius</u>	White Mandarin
<u>Synandra hispidula</u>	Synandra
<u>Vaccinium macrocarpon</u>	Cranberry
<u>Zigadenus glaucus</u>	White Camas

II. Probably Present, on NC Plant Conservation Program List, But Not
Listed from NC in EIS

<u>Cardamine rotundifolia</u>	Mountain Watercress
<u>Carex barratti</u>	Barratt's Sedge
<u>Draba ramosissima</u>	Branching Draba
<u>Marshallia grandiflora</u>	Large-Flowered Barbara's Buttons
<u>Oenothera perennis</u>	Perennial Sundrops
<u>Platanthera integrilabia</u>	White Fringeless Orchid
<u>Rhododendron bakeri</u>	Cumberland Azalea

III. Known to Occur, Not Listed on Plant Conservation Program List,
And Not Listed from NC in EIS

<u>Cleistes divaricata</u>	Spreading Pogonia
<u>Cypripedium acaule</u>	Pink Moccasinflower
<u>Cypripedium calceolus</u>	Yellow Lady's Slipper
<u>Cypripedium reginae</u>	Showy Lady's Slipper

IV. Known or Believed to Occur, Listed on Plant Conservation Program List, But
Not Listed in EIS

<u>Echinops purpurea</u>	Purple coneflower
<u>Listera cordata</u>	Heart-Leaved Twayblade

(These lists were developed from limited personal files and records from NHP, and should not be considered final or authoritative. Non-vascular plants should also be evaluated and listed. Contact NC NHP for official listings from NC mountain national forests.)

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: *Looks impressive*

Why?

Comments on Alternatives: *I agree with your selected alternative, Alternative D. I admire your willingness to take on the task of doing what needs to be done.*

Why? *For someone who has worked in the woods, you appreciate what herbicides can do and that their use is a lot safer than manually cutting.*

Other: *we need regional direction on use of herbicides for road ROW maintenance.*

Why? *Engineering people are not up to speed on use of herbicides for road ROW maintenance. Some people feel manual methods are better, often we can do on a 3 yr cycle with herbicides and keep unwanted vegetation controlled.*

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Freshland, George A
 Name First MI Last (Organization)
5119 Winton Park Dr
 Street
Round Bay *Va* *24419*
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 472

From: George A. Freeland

Comment No.

Response

- | Comment No. | Response |
|-------------|--|
| 1 | Your preference for alternative D was included in the content analysis of all comments received. |

Other:

- ② We need to insure we have the flexibility to use herbicides to help us establish oak. Our LRP said normally they will not be used for treatment of hardwood-type types. This is before the use of Garlon to help establish oak was released by research.

We need to be able to use herbicide in hardwoods to help us get oak back in our stands on site index 75+.

Get real



Jan 20, 1989
 Robert Johnson
 1183 Hannah Br. Rd.
 Burnsville, N.C. 28714

John E. Alcock (Regional Forester)
 U.S.D.A. Forest Service
 1720 Peachtree Rd. N.W.
 Atlanta, Ga 30367

Dear Forest Service:

- 1 I'm response to your vegetation management proposals I would like you to know I strongly favor Alternative B. Alternative B maintains our existing resources while being the safest for humans, animals and plants, it is aesthetically the most pleasing, has a minor impact from smoke emission and has a minor impact on our cultural resources.
- 2 I would argue with your assertion that employment opportunities would be low. there may be some jobs such as herbicide spraying and fire managing that wouldn't be created but you have to remember that Tourism is our number one industry by far. Tourists don't come to see mountains that are scarred from heavy use and controlled vegetation management. They come to be in a beautiful Natural setting. Alternative B preserves the aspect of our mountains.

Response to Comments in Letter No. 473

From: Robert Johnson

Comment No.

Response

- 1 Your preference for alternative B was included in the content analysis of all comments received. Also see response to comments in Letter No. 261, Comment No. 2.
- 2 Please see responses to Letter No. 22, Comment No. 1 and Letter No. 57, Comment No. 3.

^{24/73}
 This is our greatest resource and one of our best hopes for continued economic development.

The scientific analysis of the different management practices is quite impressive but as stated on page IV 150 there are many areas where research is still needed especially on the long term effects of herbicides.

- 3 Many of the studies remind me of earlier studies done on now banned chemicals such as 245T and chlorodane. Just like your studies they concluded that they were safe if properly applied.

I am suspicious that some of the herbicides you propose to use will later be found to be more toxic than currently thought. Our public lands are not the place to experiment and find this out.

- 4 There is a clear degradation of the vegetation in our mountains especially at higher elevations. Some of this is caused by noxious chemicals that are deposited by the atmosphere. It doesn't make sense to increase the amount of noxious chemicals that are applied by increasing herbicide use. We should be decreasing not increasing their use.

Please change your mind and make B your preferred alternative.

Sincerely Robert Johnson

3 Please review the literature cited in Letter No. 169, Comment No. 2.

4 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.



Walton R. Smith

FOREST PRODUCTS CONSULTANT
221 Huckleberry Creek Road
FRANKLIN, NORTH CAROLINA 28734

RESPONSE TO
VEGETATIVE MANAGEMENT IN THE APPALACHIAN MOUNTAINS

by
Walton R. Smith, Forester
February 10, 1989

COMMENTS ON SCIENTIFIC ANALYSIS

The Study Team has assembled a great deal of information pertinent to the problem of vegetative management in the Appalachian Mountains and has found that many gaps exist in scientific knowledge in the chemistry and effects of herbicides; that there is little research in the use of prescribed fire in the mountains in contrast with the Piedmont and Coastal Plain; and that we are woefully lacking in research on biological methods of vegetative control. The use of manual and mechanical means of vegetative control are fairly well known and have been the principal tools used in the past.

1 It appears that conclusions and preferences have been dictated by reasons other than scientific proof, and such conclusions have been directly opposite to the recommendations suggested by public responses obtained at the beginning of this study. One begins to wonder why a public expression was sought then and why it is again being sought at this time. Perhaps it is because there is a legal requirement and must be satisfied, regardless of whether there is any intention of meeting the wishes of the public.

2 In calling for public comments, the Regional Forester set up ground rules that disqualified any comments that dealt with the reasons for vegetative management, such as the methods of silvicultural practices that makes vegetative management necessary, or that influences the number of acres that need treatment. This disqualification assumed that the Forest Management Plans for the various National Forests would stand as written. All of such plans have been appealed, some have been modified, and others may be modified even more, thus changing the need for the amount and type of vegetative management necessary. The Regional Forester should either recognize that the EIS is premature, or that flexibility must be built into the EIS that will permit any necessary changes.

COMMENTS ON ALTERNATIVES

3 The alternatives are poorly chosen and apparently stacked to work or less come out with the results that someone wanted; certainly not the public. Even though the public requested priority in the order of manual, mechanical, fire, and herbicide; the Forest Service has chosen to increase fire and herbicide over current use and to reduce manual, mechanical, and even biological. This has been done in spite of the background of information of the very potent dangers to humans, wildlife, and plant life by the use of herbicides and pesticides, and the lack of any real research on the use of fire as a tool in the

Response to Comments in Letter No. 474

From: Malton R. Smith

Comment No.

Response

- 1 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS. The EIS shows that the preferred alternative will improve our ability to meet vegetation management objectives (Final EIS section I.B) and pose minimal risks to people and the environment (sections II.H and IV.N).

Please see response to comments in Letter No. 53, Comment No. 2 and also Letter No. 41, Comment No. 1

- 2 While many Plans have been appealed, this neither damages the basic soundness of the analysis nor causes a reason to expand the scope of the document. The EIS amendment provides ample flexibility. Of equal importance, this document establishes requirements for site-specific analysis and mandates stringent mitigation measures.

- 3 The alternatives were developed in response to public issues and management concerns as now explained in Final EIS section II.B. See our response number 1 above.

Pesticides include herbicides and insecticides. Only herbicides are covered by the EIS.

All relevant information about herbicide effects were used in the EIS and Risk Assessment (appendix A). Data gaps were overcome by modeling that used conservative assumptions that deliberately overestimated potential adverse effects. The result was a comprehensive, cautious analysis of herbicide effects on people and the environment. These analyses received rigorous scientific review and command broad support. The EIS shows conclusively that use of herbicides with the mitigations required in section II.E.2.c will pose minimal health and environmental risks (sections IV.B to IV.G).

In the preferred alternative, severe slash burns are prohibited and mitigation measures on pages II-52-56 of the Draft EIS mandate actions to protect the environment when using prescribed fire. The effects of prescribed fire with appropriate research citations are discussed in great detail in chapter IV and appendices B and E.

Appalachian Mountains. (I use the word "pesticide" because it is shown on page ii of Volume II and I presume that you intend to use pesticides for insect control, although there is no discussion of them in either volume.)

I suggest that you test another alternative somewhere between F and G which would cover about 106,000 acres or 2 percent of the National Forests each year. I would suggest that you consider 45 percent manual, 44 percent mechanical, 5 percent prescribed fire, 5 percent known safe herbicides, and 1 percent biological (cows until we find better biological methods such as controlled wildlife grazing.)

Manual control with chain saws and hand tools certainly poses some known hazards the same as the harvesting of timber, but proper training has been shown to minimize these dangers; at least we know what they are. The same dangers apply to mechanical. Fire can be used with a minimum of danger if the burn is properly planned with adequate firelines, suitable weather, and skilled personnel. The dangers from herbicides and pesticides are insidious, often unknown, and may take days or years to be manifest. If you would care to chart the herbicides and pesticides and their use for the past 30 years, I think that you will find that most of them have been used for less than 10 years before they are taken off the market and banned. We are uncovering drums of them in leaking hazardous waste areas today and are faced with more of that problem tomorrow and in the years to come. The technology of plant killing by herbicides has progressed much faster than our knowledge of their dangers to humans, animals, and flora, land and aquatic. The report that you have issued provides page after page of these herbicide dangers, only to be glossed over with an increase in their use.

CONCLUSION

As the foremost steward of the productive management of land in the United States, the Forest Service should be the leader in the use of the safest and best methods for the conservation of our land and our environment. Neither economics nor the favoring of any one resource should create the need to take chances with the health of flora or fauna with unproven chemicals or the careless use of fire. The management of vegetation as necessary can provide needed jobs with little damage to people and the environment.

Walton R. Smith
Walton R. Smith, Forester

cc: Senator Terry Sanford
Congressman Jamie Clarke

- 4 In many respects this alternative is very similar to alternatives B and Modified E which effects are already analyzed in the Final EIS. When considering this alternative, we evaluated the requirements for each method as related to the various activities that were within the scope of the EIS and determined two limiting factors. First, the 5 percent level for prescribed fire will not meet the minimum needs (20-25 percent) which is necessary to reduce hazard fuel buildups, maintain fire-dependent ecosystem and meet critical wildlife habitat needs. There is no practical substitute for this method and the effects of a similar level of prescribed fire are already analyzed in detail in alternative B. Second, mechanical methods have limited applicability for fuel treatment, hiking trail maintenance, hardwood site preparation, pine and hardwood release, and heath bald maintenance. Also mechanical tools have operational limitations that restrict their use on both steep slopes or rocky terrain, which is so prevalent in the Appalachian Mountains. This limitation prohibits this method to be feasible at the recommended 44 percent level. Therefore, because of the above reasons it was eliminated from detail study.
- 5 See our response number 3 above. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (section II.E.2.c) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

The thorough, cautious nature of our analyses in the EIS and Risk Assessment were designed to reject any herbicide with the slightest chance of serious adverse consequences. The EIS does not gloss over potential dangers, but consciously overestimates and discloses them and mandates mitigation measures to keep all risks well within acceptable levels. Key mitigations limit use to 8 least-risk herbicides, require application at lowest effective rates using low-drift technology, and mandate special procedures (including wide, clearly-marked buffers) to strictly control results. In addition, alternative MODIFIED D reduces total and aerial herbicide use and specifies that treatments be 90-100 percent selective (applied directly to individual target plants) in the general forest area (Final EIS page II-11).

Rt.1, Box 123-A
 Bakersville, N.C.
 February 13, 1989

Vegetation Management EIS
 1720 Peachtree Road, NW
 Atlanta, Georgia 30367-9102

Dear Sir,

This letter is in response to the Draft Environmental Impact Statement for Vegetation Management on National Forests of the Appalachian area

- 1 Alternative B comes closest to describing the approach I approve of for vegetation management in our southern national forests. While I do not subscribe to the total hands-off approach of Alternative A, my feeling is that nature is a much more competent vegetation manager than we are. Our human approach should be one of low intensity, gentle persuasion. Lightly steering natural processes of the forest in a direction that enhances the ecological health of the forest, and thereby increasing the benefits the forest provide to us. The only situation in which vegetation management should be more intense is in providing habitat and protection to threatened and endangered species.

- 2 The use of prescribed fire should be minimal. Air in the eastern U.S. is of poor quality, so poor that some trees in our forests are dying from it. In a time when various forms of combustion the world over (but especially in the U.S.) are changing our very climate, contributing further to this trend is inappropriate, and in any case, may soon be outlawed.

- 3 Only mechanical methods that cause low soil disturbance should be used for vegetation management. Even methods that cause moderate soil disturbance should not be considered. Maintaining soil fertility should be the overriding concern of any treatment of any kind in the forest. Poor soil means a poor and sick forest and a sick forest ecology.

I find the trend toward increased use of herbicides very disturbing. This is my greatest concern in the vegetation management programs of the U.S.F.S. I realize that they are efficient and cost effective. But that is not the bottom line. The bottom line is a healthy forest.

- 4 The U.S.D.A. has a history of inadequate research and "jumping the gun" with the introduction of various herbicides and pesticides. A number of chemical agents have been introduced as safe by the U.S.D.A. only later to be banned as being too hazardous. Chlorodane is one that has been in the news lately. DDT is probably the most infamous example.

- 5 I am frankly appalled that the U.S.F.S. is considering aerial application of herbicides. No way should this be allowed. Even hand application of herbicides effects more than the target plant. There is over spray. There are residues. They effect soil microbes. Aerial application is totally inappropriate and should not be allowed. I can not state this too strongly.

Response to Comments in Letter No. 475

From: Tom Mills

Comment No.

Response

- 1 Your preference for alternative B was included in the content analysis of all comments received. Also see response to comments in Letter No. 261, Comment No. 2.

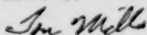
As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.
- 2 Prescribed fire on national forests in each of our 8 alternatives would account for less than 2 percent of the total forest fire smoke produced in the Appalachians (Draft EIS page IV-121). In addition, the greatest single contributor to oxygen depletion and carbon dioxide loading of the atmosphere is tropical slash and burn activity, not combustion in the U. S.; prescribed fire in all the world's temperate forests make a negligible contribution (Draft EIS page IV-122). Prescribed fire on national forests have no significant effect on regional air quality or global climatic change.
- 3 The only moderate-disturbance tool allowed in alternative D (Draft preferred) is piling. It is rated a moderate-disturbance tool only because it moves most slash and some litter (but little or no soil) into piles and windrows (Draft EIS pages II-27 and IV-93). It poses low risk to productivity of poor soils and minimal risk to that of fair and good soils (Draft EIS page IV-96). It is used only for site preparation and is projected for use on only 90 acres per year in alternative D (Draft EIS page IV-139). Overall, alternative D poses minimal risk to soil fertility (Draft EIS page II-77).
- 4 Such risks are negligible with this EIS. See our response to Letter No. 407, Comment No. 1.
- 5 Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced from 900 to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS). Please see Final EIS pages II-63 and 65-67 for mitigations that reduce adverse effects of aerial application; sections IV.C, IV.F, and IV.G for effects on plants, soil, and water; and our response to Letter No. 1.

6

Although no herbicide use would be ideal, I recognize that it is a cost effective tool for vegetation management. Only hand application to target species should be allowed, with strict adherence to guidelines that protect the applicator and the plants and animals in the area. Herbicides need not be strong. Only powerful enough to suppress the target plants and give desirable species a competitive advantage.

The National Forests are places wisely put in the public trust by some of our far sighted past leaders. They are not tree farms. They are not play grounds. They are places where nature should basically be left to take its course. We can tap some of the resources there, but should do so in a low impact manner. Any vegetation management activities should be geared toward the enhancement of the ecological health of all plants and animals that make up the forest. Just because we, as humans, are able to manipulate our environment and exploit its resources, does not mean we should.

Sincerely,



Tom Mills

- 6 We agree in principle. Selective treatments directed at individual target plants are required for all activities except rights-of-way and rare cases of site preparation-pine and TSI-pine management (page II-10 Draft EIS). See description of alternative "Modified D" on pages II-10-11 of the Final EIS; this alternative increases the percentage of herbicides applied selectively. Mitigation measures in EIS section II.E.2.c are designed to achieve just the objectives you mention.



DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1880
WILMINGTON, NORTH CAROLINA 28402-1880

February 10, 1989

IN REPLY REFER TO
Planning Division

Mr. Steve McCorquodale, Team Leader
Vegetation Management Environmental
Impact Statement Team
U. S. Department of Agriculture
Forest Service
1720 Peachtree Road, NW
Atlanta, Georgia 30367

Dear Mr. McCorquodale:

1

We have reviewed the "Draft Environmental Impact Statement (Draft EIS) for Vegetation Management in the Appalachian Mountains" and offer the following comments.

The proposed project may require a Department of the Army permit authorization, pursuant to Section 404 of the Clean Water Act of 1977, as amended, if any excavated or fill material is placed in waters of the United States and/or their adjacent wetlands. Various vegetation management methods mentioned in the Draft EIS could possibly involve discharges:

- a. Mechanical methods; i.e., scarifying and ripping tools, raking and disking, and windrows.
- b. Firelanes and resultant discharges in prescribed fires.
- c. Site preparation for reforestation.
- d. Road building activities (other than silvicultural exemptions).

Some mention of wetland protection (not altering hydrology, threatened and endangered species, etc.) is taken into account in the Draft EIS. Please furnish us with a copy of the Final EIS, when it becomes available, at the above address, so that we can review the chosen alternative for any discharges requiring Department of the Army 404 permits. Should you have any questions, please contact Mr. Dave Baker, Regulatory Branch, at (704) 259-0856.

We appreciate the opportunity to comment on this project. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

David C. Patchell
for Lawrence W. Saunders
Chief, Planning Division

Response to Comments in Letter No. 476

From: Lawrence M. Saunders

Comment No.

Response

- 1 Discharges of excavated or fill material are expressly prohibited by the Draft EIS (page II-57). Firelines within filter strips along streams, lakes, and wetlands must have minimal soil disturbance (Draft EIS page II-54) consistent with the intent of the filter strip, which is to trap soil before it reaches the water. Road building activities are outside the scope of this EIS (Draft EIS page I-2). Cumulative effects analysis showed sediment effects of vegetation management to be negligible (Draft EIS page IV-115).

59 Gibson Rd.
Asheville, N.C. 28804
Feb. 11, 1989

U.S.D.A Forest Service
VMT Room 362 South
1720 Peachtree Road, N.W.
Atlanta, GA 30367-9102

To Whom It May Concern:

- 1 I strongly oppose both ground and aerial spraying of herbicides in the National Forests.

- 2 My entire family spends a great deal of time in the National Forest camping and hiking, so I'm sure you can understand my concern about herbicidal sprays. As we all know, these sprays contain extremely toxic chemicals whose detrimental present and future impact on human health, as well as on wildlife, plant life and water systems, has not yet been adequately studied.

There are other means of controlling unwanted vegetation which would certainly be a lot safer than widespread herbicidal spraying. Although these mechanical means may be more labor intensive, in the long run they would be much safer and wiser to use.

In view of the health of the environment and of the life that it nurtures, as well as the health of the humans who use the forests, please move to discontinue the use of herbicidal spraying.

Sincerely,

Jane Christiansen

Jane Christiansen

Response to Comments in Letter No. 477

From: Jane Christiansen

Comment No.

Response

- 1 Your opposition to herbicide use was included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

- 2 We have not recommended for use any "extremely toxic chemicals" and we believe, within the analytic framework used (Risk Assessment), that adequate data has been found to permit reasoned conclusions to be presented in the Draft EIS. Please see response to comments in Letter No. 478, Comment No. 2.

11 Crowningway Drive
Asheville, NC 28804
February 12, 1989

U.S.D.A Forest Service
VMT Room 362 South
1720 Peachtree Road, NW
Atlanta, Georgia 30367-9102

To whom it may concern:

1 I am writing in opposition to the proposed ground and aerial spraying of herbicides in the National Forests. I am not only concerned about the direct effects it could have on human life but I am also concerned about the long-term welfare of our ecology, wildlife, and water systems. I am particularly opposed to aerial spraying since it is impossible to prevent spraying wildlife and desirable plants within the targeted or adjacent areas.

2 I think that further studies need to be done on the impact of such plans before these very toxic chemicals are used in our National Forests. I strongly support the use of other means to control unwanted vegetation which have a less negative impact on the total environment.

Sincerely,


Patricia L. Thibodeau

Response to Comments in Letter No. 478

From: Patricia L. Thibodeau

Comment No.

Response

- 1 Your opposition to herbicide use was included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of protected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

- 2 None of the herbicides evaluated fall in a "very toxic" category and we believe that within the framework of the Risk Assessment (appendix A), adequate data has been presented and peer reviewed. Also in the Final EIS, only the lowest risk herbicides called class A (Draft EIS page II-42) are permitted unless approved by the Regional Forester.

11 Crowningway Drive
Asheville, NC 28804
February 12, 1989

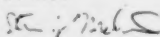
U.S.D.A Forest Service
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1720 Peachtree Road, NW
Atlanta, Georgia 30367-9102

To whom it may concern:

1 I am writing in opposition to the proposed ground and aerial spraying of herbicides in the National Forests. I am not only concerned about the direct effects it could have on human life but I am also concerned about the long-term welfare of our ecology, wildlife, and water systems. I am particularly opposed to aerial spraying since it is impossible to prevent spraying wildlife and desirable plants within the targeted or adjacent areas.

2 I think that further studies need to be done on the impact of such plans before these very toxic chemicals are used in our National Forests. I strongly support the use of other means to control unwanted vegetation which have a less negative impact on the total environment.

Sincerely,


Steven J. Melamut

Response to Comments in Letter No. 479

From: Steven J. Melamut

Comment No.

Response

- 1 Your opposition to herbicide use was included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

- 2 Please see response to comments in Letter No. 478, Comment No. 2.

We also strongly support other methods as described in the description of each alternative in chapter II of the Draft EIS. In the Final EIS, chapter I, we have added a section that clarifies relationship and requirements of the various tools with each activity.

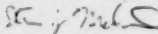
11 Crowningway Drive
Asheville, NC 28804
February 12, 1989

U.S.D.A Forest Service
VMT Room 362 South
1720 Peachtree Road, NW
Atlanta, Georgia 30367-9102

To whom it may concern:

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- 2 Please see response to comments in Letter No. 478, Comment No. 2.

We also strongly support other methods as described in the description of each alternative in chapter II of the Draft EIS. In the Final EIS, chapter I, we have added a section that clarifies relationship and requirements of the various tools with each activity.

475 E. Main St., #3
Franklin, N.C. 28734
February 12, 1989

Dear Mr. McCorquodale:

Re: DEIS Vegetation Management Appalachian Mountains

- 1 It appears that a great deal of information contained in D.E.I.S. Piedmont and Coastal Plain was repeated. You have created eight alternatives and chosen D as preferred. You are attempting to legitimize continued and increased use of herbicides. Much of your data is being supplied by the manufacturers of chemicals in question. These manufacturers are profiting and will increase their profits with your alternative. Therefore, I will, for the record, repeat that this D.E.I.S. is not scientifically objective. By your preference, you also show that your priority is ease of management of vegetation by herbicides, rather than the proper care and attention to wildlife, be it plant or animal.
- 2
- 3 Throughout, I have read such terms as "very slightly toxic", "slightly toxic", "moderately toxic", "not likely to injure", "low hazard", "cancerous", "insufficient data", "more study needed", "carcinogenic" and so on, when discussing the herbicides in question. A great deal of work is based on assumptions, expectations and estimations. A vast amount of data is missing by your admission, Vol I, pgs. 66,69. Modeling is used to cover a multitude of inadequacies. It is a callous, unworthy and unacceptable approach toward wildlife in our National Forests for the sake of ease. That is a commercial approach.
- 4 In innumerable places you continuously mention short-term toxic effects of herbicides, presumably as a selling point for their use. You also say that soil treated to suppress hardwood growth is still toxic to hardwoods after twenty-three years and who knows for how much longer. This is interference with the natural succession of species. By such dabbling you are affecting an infinite number of systems of life in their natural order without understanding the end results. This is not a legitimate service to the public you serve.
- 5 The following are just a few concerns. Vol II, page 8-1 "There is a considerable amount of uncertainty in the toxicity data and methods used in wildlife risk assessment. Toxicity testing has been conducted on relatively few wildlife species. Herbicides may be more toxic to birds than to mammals or more toxic to fish than to birds" and this seems to be of no concern to you. Vol. II, page 8-8 "Dicamba presents a lower risk to wildlife than either 2, 4-D or 2,4-DP, although a few animals could be seriously affected or killed" and this doesn't seem to matter. Vol II, page 8-21 "Very limited information is available

Response to Comments in Letter No. 480

From: Bob Gerry

Comment No.

Response

- 1 Final EIS section II.B now contains statements explaining the basis for the formulation of each alternative. Also see response to comments in Letter No. 170, Comment No. 2.
- 2 Manufacturer's data, reviewed by EPA or published in the open scientific literature, was assumed to be valid in conjunction with other data. Where discrepancies were seen, they are noted in the document. The preferred alternative reflects management direction that increases effectiveness of treatments and precision of results (Final EIS sections I.A and I.B) with minimal risk to people and the environment (Final EIS sections II.H and IV.N).
- 3 Terminology used is standard toxicological language which has precise meanings (defined in the text) and as such reduce the wordiness and increase the precision of communication.

Recognizing that there are significant incomplete or unavailable data related to herbicide use, we have prepared a Risk Assessment (appendix A). It was subjected to rigorous scientific review (Draft EIS, page V-7) and has broad support.

Modeling is used in the Risk Assessment to overcome data gaps and estimate potential effects of herbicides on various environmental elements. The models consistently make conservative assumptions to deliberately overestimate potential adverse effects. Since most of the models multiply one risk times another, we have actually magnified the estimate of risk far beyond what is probable in the field. The Risk Assessment looks at a range of scenarios, from highly probable (typical) to unlikely (maximum) to very unlikely (accidents). Sufficient information exists concerning herbicide applications to make reasonable estimates of potential exposures under each alternative. The effects of those exposures are evaluated based on data on the toxicity of each herbicide from previous accidental and controlled human exposures and from laboratory animal studies. This risk assessment method is widely accepted in the scientific community.

- 4 The purpose of an EIS is to disclose known effects of actions. Both short- (acute) and long- (sub-chronic and chronic) term toxic effects of herbicides are documented as thoroughly as possible. Nowhere in the document is it stated that treated soil remained toxic to hardwoods for 23 years. On page IV-58 of the Draft EIS we state that reduced hardwood density was still evident 23 years after treatment; this is not due to residual herbicide toxicity, but rather the effects of stand density caused by the treatment. The toxic life of all our class A herbicides (table II-1), the only ones allowed for general use (Final EIS pages II-61-62) is far less than one year (appendix C, table 1).
- 5 Analogy is used to project probable effects where field or laboratory data is unavailable. Facts about herbicides such as the two quoted statements do indeed concern us. Thus, we have included in chapter II extensive mitigation measures to prevent these circumstances from occurring. In the Final EIS, class B and C herbicides that include 2,4-D or 2,4-DP require Regional Forester approval prior to use.

Steve McCorquodale

2-12-69

Page 2

on chronic toxicity in aquatic species for most chemicals" and this
THIS IS OF LITTLE CONCERN TO YOU?

- 6 Mitigation of endangered species is laughable if it wasn't so tragic. You make an impossible assumption as a basis for your statements. The people you hire to treat vegetation are not experts who recognize endangered species, are familiar with terrain.

We are finite beings with finite minds and should not be polluting the high ground - our mountains. Because of ease you are blundering into a morass by using herbicides. It is unfortunate that you refuse to see what you are doing and where you are going. You are depending so much upon a lack of knowledge and I don't understand how you can live with this or yourselves.

- 7 Regarding prescribed burning - again because of ease - you are insisting on increasing acreages in spite of all the data you presented that hardwoods are injured more than other species and yet, hardwoods predominate in our mountainous National Forests. There must be a hidden agenda in guiding your decisions. These decisions are inconsistent with the desires of the general public and the public good. This has not always been true. You have cooperated in the past.

- 8 Of the alternatives you created and presented, the nearest one for the greatest good is "F" with modifications. It will provide much needed work, healthy work, out in the open, without affecting the health of the forests and the people involved. It will guarantee cleaner water and surroundings without disturbing the natural succession of species and wildlife. I hope you do not remain obdurate to the wishes of the people. My intention is to inform the folks who haven't had the opportunity to study and understand the D.E.I.S. presented of the truth & faulty practices now in force.

In conclusion, I realize that the Forest Service is doing much good and has done much good in the past, and that this D.E.I.S. was not easy to prepare. It has taken the wrong road in promoting "D". It's the tree factory approach which most people deplore. Remove your commercial practices from Nantahala and Pisgah Forests and you will be with us.

Sincerely,

Bob Jerry
Bob Jerry

P.S. I would expect a reply for all the time I spent reviewing the Drafts Thank you

6 Effects on threatened, endangered, proposed, and sensitive species have been adequately evaluated and mitigated in EIS section IV.E, appendix F, and section II.E.2.c. Also, in order to prevent unknowing impacts on these species, regardless of the method or tool proposed for use, mitigation measure number 2 on page II-44 of the Draft EIS specifically states that when adequate population inventory information is unavailable, it will be collected when the affected site has a high potential for occupancy by a threatened, endangered, proposed, or sensitive species. Figure D-1 on page D-8 of the appendices traces the process required to insure adequate assessment of potential harmful effects. Additionally, although all Forest Service personnel are not trained as botanists or biologists capable of recognizing threatened, endangered, proposed, and sensitive species, they are trained to seek help from appropriate sources such as Forest Service specialists and State Heritage personnel; and on-the-ground plant identification training sessions are conducted through the Regional Botanist.

7 The proposed increases in fire are minor, with most of the increase to benefit endangered species such as the red-cockaded woodpecker, wildlife habitat improvement, site preparation to avoid use of more intensive methods, and control of brown spot disease in young longleaf pine stands in Alabama. We agree completely about potential damage to hardwood stands and are requiring two mitigation measures (numbers 3 and 4 on page II-53 of the Draft EIS) to protect them. Also, numbers 7 to 11 on page II-54 is required to protect the soil.

8 Your preference for alternative F was included in the content analysis of all comments received. Alternative F, by completely eliminating herbicides, increases adverse effects from use of other methods. For example, it poses the highest risks to worker safety and air quality, and increases risks to water quality from sediment and cultural resources from ground disturbances (sections II.H and IV.N). Its advantages to employment are minimal; the full range of our alternatives amounts to a difference of less than one job per county (Final EIS page IV-133).

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

238 Rodes Avenue
Lexington, Kentucky
February 12, 1979

USDA Forest Service
Southern Region
1720 Peachtree Road N.W.
Atlanta, Georgia 30367

Dear Sir:

Reference is made to the Draft Environmental Impact Statement on Vegetation Management in the Appalachian Mountains.

1 It is my opinion that the Forest Service has made a good selection in deciding on Alternative D as the preferred alternative. This is so I believe because of such things in Alternative D as reduction in use of mechanical tools that often do considerable damage to the soil and cause much erosion. Also, in Alternative D there is more of a reduction in indirect costs than in about all of the other alternatives. Yet, Alternative D would accomplish considerable in the way of vegetation management with only medium environmental effects in my opinion.

2 However, due to our country's huge budget deficit limiting spending for years and years to come, I believe more attention to costs as a factor in the alternatives should have been given. So in developing the alternatives, rather than not to be constrained by funding, that we give some consideration to the limited finances that we may have to work with. Then, in setting up a plan of vegetation management under such consideration, we have goals we may be able to attain. Otherwise, we may have un-attainable goals.

Of course, I note that on page II-78, the EIS does compare the alternatives as to cost and on page IV-129 it compares the costs of the various tools and methods of vegetation management.

3 In view of the above, it is my opinion that experimentation should be made with livestock in vegetation management in other parts of the National Forest in addition to the balds. Possibly this will be taken up in connection with the research needs called for in paragraph 12, Section C of Chapter IV of the EIS.

I appreciate the opportunity to comment on the Draft Environmental Impact Statement on Vegetation Management in the Appalachian Mountains.

Sincerely,

James R. Alley
James R. Alley
238 Rodes Avenue
Lexington, Kentucky 40508

Response to Comments in Letter No. 481

From: James R. Alley

Comment No.

Response

- 1 Your preference for alternative D was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
- 2 The National Environmental Policy Act anticipates unconstrained analysis with subsequent disclosure of effects. Thus, the analysis was done without an economic constraint. However, the ability of the EIS to meet Forest Land and Resource Management Plan objectives (which were developed with economic constraints) was addressed. As you note in the next paragraph, economics of the alternatives are displayed.
- 3 Comment noted. The potential for expanding the use of livestock to manage vegetation in other parts of the Appalachian national forests in addition to the balds is low due to limited forage producing potentials of many Appalachian Mountain forest stands and conflicts with wildlife habitat.

South Carolina Department of Health and Environmental Control

2600 Bull Street
Columbia, S.C. 29201

Commissioner
Michael D. Jarrett



Board
Watts M. Mattman, Jr., Chairman
Toney Graham, Jr., M.D., Vice-Chairman
John B. Pyle, M.D., Secretary
Owen L. Bradd, Jr.
Moses W. Clark, Jr.
Eula M. Colson, M.D.
Merris N. Jordan, M.D.

February 15, 1989

Mr. Steve McCorquodale
USDA Forest Service
1720 Peachtree Road, NW
Atlanta, GA 30367

Re: Vegetation Management in the Appalachian Mountains, Draft Environmental
Impact Statement

Dear Mr. McCorquodale:

We have reviewed the above referenced document and offer the following
comments for consideration.

1. Support and reproduction of a balanced indigenous aquatic community is a classified use of all surface waters in South Carolina. The Appalachian Mountain region of South Carolina contains some of the State's most ecologically sensitive waters including many of its remaining natural trout streams. The methods selected for vegetation management should not adversely affect instream biota.
2. Manual methods or mechanical methods which result in low to moderate soil disturbance are preferred over herbicide use since they pose the least environmental threats to human health and aquatic life. Mechanical methods with low to moderate soil disturbance limit soil loss to surface waters. Alternative F with no herbicide use supports these preferences.
3. If herbicides must be used, directed application rather than broadcast application should be used. Also ground based application rather than aerial application limits herbicide entry into surface waters. If herbicide use is necessary, Alternative B which recommends herbicide application with hand ground tools and mechanical control methods with low ground disturbance appears preferable with regard to water quality and aquatic life protection.
4. In order to limit erosion and sedimentation to waterbodies, it is desirable to leave a vegetated filter strip adjacent to the waterbodies. This vegetated strip filters sediments and other pollutants from overland runoff before the flow enters the waterbody. We recommend leaving at least a 50 foot strip of vegetation adjacent to streams.

Thank you for the opportunity to comment on this draft environmental impact statement.

Sincerely,

Sally C. Knowles
Sally C. Knowles, Manager
Water Quality Certification Section

/sk
cc: Donald Eng

Response to Comments in Letter No. 482

From: Sally C. Knowles

Comment No.

Response

- 1 Section IV.G shows that adverse effects to water quality and to aquatic life and habitat will be minimal.
- 2 Herbicides applied selectively (directly to individual target plants), as required 90-100 percent of the time in the general forest area (Final EIS page II-11), cause no more soil disturbance than manual methods. Broadcast herbicides cause less soil erosion than even low-disturbance mechanical tools on equivalent slopes (section IV.F). Manual methods pose the highest risk of serious worker injury (section IV.B).
- 3 Selective herbicide treatments are required 90-100 percent of the time in the general forest area.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS). The advantages of alternative B over the preferred alternative are negligible with respect to water quality and aquatic life (section IV.N).
- 4 Filter strips are required on Draft EIS pages II-54 and II-57 for prescribed fire and mechanical tools. Their width in feet must be at least 30 plus 1.5 times percent slope. Herbicides may not be applied within 30 horizontal feet of any lakes, wetlands, perennial or intermittent springs and streams, or water-source seeps (Draft EIS page II-64). The efficacy of these strips is documented by research.



STATE OF WEST VIRGINIA
DEPARTMENT OF NATURAL RESOURCES
CHARLESTON 25305

February 15, 1989

GASTON CAPERTON
Governor

J. EDWARD HAMRICK III
Director

LARRY W. GEORGE
Deputy Director

Mr. Steve McCorquodale
Vegetation Management Team Leader
USDA-Forest Service
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

RE: Draft Environmental Impact Statement (DEIS), Vegetation Management in the Appalachian Mountains.

Dear Mr. McCorquodale:

The West Virginia Department of Natural Resources (WVDNR) has reviewed the U.S. Forest Service's DEIS on the above-referenced project and offers the following comments.

Three major concerns are as follows:

1. The proposed increased use of herbicides on National Forest Lands;
2. the possibility of not being able to manage scrub oak stands by prescribed burning; and
3. the possibility of not being able to plow sites for subsequent plantings.

The following comments emphasize these issues and also discuss some other problems and issues associated with this document.

Page XV, Table of Contents -- It is unclear why background data regarding the "Affected Environment" and "Environmental Consequences" (Sections A through M) were provided subsequent to the "Alternatives" Section. This arrangement made the review difficult.

Response to Comments in Letter No. 483

From: J. Edward Hamrick III

Comment No.

Response

-
- | | |
|---|---|
| 1 | While the CEQ Regulations, 40 CFR 1500-1508, are flexible, no reason was found to structure this EIS differently from the standard format in 1502.10. |
|---|---|

Mr. Steve McCorquodale
Page Two
February 15, 1989

2 Page II-1 -- Although the alternatives are fairly well reviewed and compared in this chapter, the reasoning for choosing Alternative D, the preferred alternative, is not discussed.

3 Pages I-6, I-8, IV-68, IV-69, IV-150 -- With regard to the proposed increased use of herbicides, it is strongly recommended that their use be limited to current application levels or less. This contention is based on the lack of knowledge regarding the cumulative and long-term effects of herbicides on fish and wildlife. The increased use of herbicides cannot be justified until the effects on aquatic and terrestrial resources are known.

4 Page II-28, Herbicide Methods, Par. 5 -- The amendment for new herbicides and application methods should also be open to public review and comment.

5 Page II-53, Vegetation Protection (4), Par. 5 -- This recommendation, which restricts prescribed burning in certain stands (i.e., until stem diameter reaches 8-10"), should read so as not to preclude all burning in recently harvested clearcuts (e.g., in areas where the effects on oak regeneration are being evaluated).

6 Pages II-53 and II-58 -- Due to the restrictions regarding prescribed burning (i.e., "low intensity burns," "flame lengths of 2 feet or less," and no burning in areas "with an average duff depth of less than 1/2 inch"), it is unclear whether the use of fire in the management of scrub oak (*Quercus ilicifolia*) will be allowed. A discussion with the WVDNR on the procedure to permit scrub oak management is recommended. Furthermore, with regard to wildlife management, prohibiting the use of high intensity burning may very well curtail the use of fire in the development of turkey brood habitat in oak-hickory forests. High intensity burns are most effective in developing the desired understorey vegetation.

7 Page II-55, Par. 1-3 -- Fire is considered a valuable management tool in altering wetland vegetation to benefit wildlife. It is not clear whether wetland burnings will be allowed. It is the opinion of the WVDNR that it should be permitted if no significant impacts to the environment (e.g., elimination of a rare species) are identified.

- 2 Rationale for selecting an alternative will be stated in the Regional Forester's Record of Decision accompanying the Final EIS. The Draft EIS does not indicate rationale for selection, just a statement of preference.
- 3 Even though the acres treated with herbicides increases, requirements in the mitigations insure reduced application rates, lower risk herbicides, and more selective application techniques. Thus, the amount of herbicide used on each acre will be less. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
- 4 Amending this EIS contemplates following procedures set forth in the CEQ Regulations for implementing the National Environmental Policy Act, 40 CFR 1500-1508, including public participation.
- 5 The term "underburns" has been inserted into mitigation measures 2 through 6 on page II-53 so as to clearly distinguish them from slash burns in the Final EIS. Definitions of the two terms can be found in chapter IV, page IV-86, and in appendix B of the Draft EIS.
- 6 Scrub oak management is permitted but only under the mitigation measures established on pages II-53 and II-54 of the Draft EIS. High intensity burns on areas with an average duff layer of less than 1/2 inch may very well produce the most desired understory vegetation for turkey brood habitat in oak-hickory forests or effectively manage scrub oak stands; however, risks to soil and water resources as well as to overstory and midstory vegetation are considered unacceptable. Our analysis shows that adequate results for wildlife management objectives can be obtained while minimizing adverse effects to other valuable resources by using fires with flame lengths of 2 feet or less.
- 7 Wetland prescribed fires are allowed if needed. Mitigation numbers 12 and 13 on Draft EIS page II-55 are meant to minimize fireline damage to those wetlands we are trying to protect from fire for some reason (e.g., to protect a threatened or endangered plant that is susceptible to injury or death from fire).

Mr. Steve McCorquodale
Page Three
February 15, 1989

8 Page II-59, Par. 5 -- It is indicated here that no aerial spraying of certain herbicides will occur within 300 feet of known gray, Virginia big-eared, or Indiana bat habitat and that no ground application will be performed within 60 feet of such habitat. "Habitat" in this discussion requires qualification. The WVDNR feels that the definition of "habitat" with respect to herbicide applications should include the home range of the species (including nesting and foraging sites) and further include, as a minimum, a 1/2 mile wide buffer surrounding the utilized area.

9 Page II-60 -- Also in regard to herbicide applications, the "habitat" of all the species listed on this page should be defined in the manner suggested immediately above.

10 Page II-64, Buffers -- The WVDNR feels that the buffer areas defined in sections 30, 31, 32, 33 are inadequate.

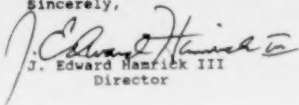
11 Page II-65, Biological Methods, Item (3) -- This section describes alternatives that use grazing as a method on balds. The procedure in item 3 indicates that a combined forage use by wildlife and livestock may not exceed 70 percent of total forage production. It allows 45 percent utilization of grasses and forbes for livestock and only 25 percent for wildlife. It is easily conceivable that wildlife grazing utilization could exceed 25 percent (e.g., deer could potentially forage on more than this value). The WVDNR feels that the Forest Service should describe the procedure to be followed that will maintain the recommended grazing values.

12 Page II-70, Table II-4 -- Alternative D, the preferred plan, excludes heavy disking and raking. This restriction is opposed by the WVDNR, as it will prevent proper preparation of sites for certain plantings.

13 Page II-83, Identification of the Preferred Alternative -- After reading the plan summaries preceding this section, the WVDNR can only conclude that the reason for Alternative D's choice is based on lower cost per acre and lower labor intensiveness. The risk involved in the increased, long-term use of herbicides may alone negate the savings suggested here. The reasoning for the preferred Alternative selection should be provided so that the conclusion may be properly evaluated.

Should you have any questions regarding our comments, please contact this Department's Office of Environmental Regulatory Affairs at 304/348-2761.

Sincerely,


J. Edward Hamrick III
Director

JEH/dts

cc: WVDNR-Wildlife Resources Division
WVDNR-Office of Environmental
and Regulatory Affairs

- 8 Please refer to the definition of "habitat" in the glossary which is in line with your proposed definition. This defines the term "habitat" as used throughout the Draft EIS and Final EIS. Our analysis of potential risk from 2,4-D and 2,4-DP does not suggest that a 1/2 mile buffer is necessary to protect bats. Furthermore, because an additional measure will require Regional Forester approval for any use of 2,4-D or 2,4-DP (Final EIS page II-61), we expect that these herbicides will rarely, if ever, be used on southern national forests in the future.
- 9 See response number 8 above.
- 10 Research (Draft EIS volume I, pages IV-99 to IV-101 and volume II, appendix C) and field experience show these buffer widths to provide adequate protection when class A and B herbicides (Draft EIS page II-42) are used. Mitigation number 7 on Draft EIS page II-59 has been changed in the Final EIS to virtually preclude use of any but class A herbicides. To provide extra protection in mountain terrain, mitigation 30 on Draft EIS page II-64 has been changed in the Final EIS to require buffers used in aerial herbicide application to be at least 200 feet wide.
- 11 We agree in part. As indicated in the last paragraph on page II-65 of the Draft EIS, monitoring is done through project plan reviews and periodic on-site evaluations. This document is not an operations field guide but instead provides overall mitigation guidelines. Much of the "how to" of this mitigation can be found in Forest Service Handbook 2209.21, Range Analysis Field Guide, specifically the sections on forage production and utilization.
- 12 Proper preparation of sites for wildlife plantings can more than adequately be achieved using the mechanical tools available in alternative D while minimizing adverse impacts to other resources. Specifically, piling and light disking can achieve project objectives while protecting soil and water resources while heavy disking and raking do not (sections IV.F and IV.G).
- 13 See response to comments in comment number 2 above. The EIS shows conclusively that alternative Modified D will improve the effectiveness of our vegetation treatments while providing virtually the same protection of people and the environment as alternatives B, E, or Modified E.

AGRICULTURAL RESOURCES CENTER / PESTicide Education project
 115 West Main Street Carrboro, NC 27510 (919) 967-1886
 615 Willard Place Raleigh, NC 27603 (919) 839-0159

February 17, 1989

Steve McCorquodale, Team Leader
 Vegetation Management EIS
 USDA Forest Service
 1720 Peachtree Road, N.W.
 Atlanta, Georgia 30367

RE: Draft EIS, Vegetation Management,
 in the Appalachian Mountains.

Dear Mr. McCorquodale:

The following comments on the Draft Environmental Impact Statement (DEIS), Vegetation Management in the Appalachian Mountains, prepared by the U.S. Forest Service (USFS), Southern Region, November, 1988, are submitted by the Agricultural Resources Center and its Pesticide Education Project.

The Agricultural Resources Center (ARC) is a private, non-profit, public interest organization with offices in Carrboro and Raleigh, North Carolina. ARC conducts research and public education on a variety of agricultural and natural resource issues and, through its Pesticide Education Project (PESTed), has a special interest in pesticides, their application, hazards, and safe use.

RELATIONSHIP TO OTHER SOUTHERN REGION DEIS'S:

The Appalachian Mountains (AppMt) Draft EIS is the second in a series of three covering the Forest Service's Southern Region. The first, on the Coastal Plain/Piedmont (CP/P), was issued in April, 1988. The third on the Ozarks is to follow. The three documents, though distinct, are similar, share a common format, use much common material, and are closely linked in assumptions, analysis, and recommendations. The similarity is especially great in the risk analyses and risk assessments of the various methods and materials proposed contained in the Appendices, in Volumes II of the first two DEIS's. The DEIS's are being issued in sequence, with each to build on experience of developing the ones that have gone before.

Similarly, ARC's concerns, though directed at a particular document prepared for a particular sub-region, are directed at the common problems of vegetation management and our comments are applicable to the National Forests in entire Southern Region. Our concerns about the use of herbicides and emphasis on the need for use of Integrated Pest Management (IPM) are especially applicable to all the DEIS's.

Thus, we formally request that the comments and supporting documents previously submitted on the DEIS for the Coastal Plain/Piedmont by the Agricultural Resources Center on August 31, 1988, be considered a part of our submission on the DEIS for the Appalachian Mountains.

Response to Comments in Letter No. 484

From: Allen Spalt

Comment No.

Response

-
- | | |
|---|--|
| 1 | Please see mitigation number 3 on page II-46 of the Draft EIS. Also see response to comments in Letter No. 296, Comment No. 4. |
| 2 | Subject letter and responses are published as Letter No. 150 in the Final EIS for Vegetation Management in the Coastal Plain/Piedmont: Volume III. |

APPALACHIAN MOUNTAIN DEIS

PAGE 2

The comments below deal primarily with changes made in the AppMt DEIS document from that for the CP/P and emphasize some of the particularly serious problems that remain.

The Forest Service is to be commended for its long and serious work on this document and for its attempt to revise the format of the CP/P DEIS to incorporate some of the criticism submitted by ARC and others. However, serious and substantial problems remain in the approach of the USFS to its proposal for vegetation management in the Appalachian Mountains.

CHANGES IN THE APPALACHIAN DEIS:

3 The AppMt DEIS appears to have tried to address some of the inadequacies of the CP/P DEIS by the addition of sections which attempt to explain the proposed alternatives and to provide a framework for decision making. But, as in the CP/P DEIS, there is no clear rationale given for the development of one alternative or another, there is presentation of an incomplete range of possible alternatives, and there is inadequate basis for choosing between the alternatives which are developed.

4 The AppMt DEIS selects as its preferred alternative one which is inconsistent with concerns expressed by commenters, including the ARC. The preferred alternative provides inadequate protection of the environment and public health and is not sound public policy. While the AppMt DEIS presents a beginning for evaluating some of the concerns associated with a vegetation management plan, it contains serious and substantial deficiencies.

The AppMt DEIS seems to recognize the relation of the Vegetation Management plan to the overall Forest Management Plan and the role of Integrated Pest Management in the vegetation management proposal. It states that site-specific analyses will be required before management methods are chosen (p. II-44); requires some monitoring of vegetation management activities (I-4); incorporates IPM principles in required site-specific analyses, emphasizes prevention over treatment (II-46); gives preference to least invasive methods (II-58); and recognizes the possibility that the Forest Plans may have to be modified depending on the choice of vegetation management method.

5 These changes are all steps in the right direction from the CP/P DEIS, but they are so vague and incomplete as to provide an inadequate basis for developing the alternatives or for choosing among them.

6 The new provisions cited are also inconsistent with many other stated assumptions of the AppMt DEIS. They appear to be "tacked on" to the document developed earlier for the CP/P DEIS rather than being integrated into it in a meaningful way. As such, they fail to adequately inform the decision maker or the public or to provide an adequate basis for decision making.

7 Bias in Favor of Herbicides: The underlying bias in favor of the use of herbicides in the AppMt DEIS is virtually identical to

- 3 Alternatives were developed from issue "themes" raised by public comment (Draft EIS page II-1). Based on that public comment and the wide variation between alternatives A and H, the range of alternatives is quite complete. The Final EIS does, however, address two added alternatives suggested by public comment to the Draft EIS; only one was implementable and therefore analyzed in detail. In the Final EIS, the basis for each of these alternatives is stated (section II.B). We believe sufficient basis does exist for choosing a preferred alternative; the rationale for that selection will appear in the Regional Forester's Record of Decision accompanying the Final EIS.
- 4 We believe the EIS clearly shows the preferred alternative to improve the effectiveness of our vegetation treatments while posing minimal risk to people and the environment (sections II.H and IV.N). As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.
- 5 We believe the mitigations (section II.E) and analyses (chapter IV) are direct, clear, and thorough, and form an excellent basis of comparison between alternatives (sections IV.N and II.H).
- 6 We fail to see the inconsistency. A determined effort was made to unify all parts of the EIS.
- 7 There is no bias towards the use of herbicides. The EIS displays the effects of five different methods of vegetation management, of which herbicides is only one. In the Appalachian Mountains methods other than herbicides are projected to be used on 74 percent of the total acres treated in the preferred alternative D in the Draft EIS (page II-9). The EIS simply shows that the preferred alternative, with its mitigations and inherent constraints, would improve treatment effectiveness with minimal adverse impacts. Furthermore, the determination of the most appropriate tool for a project must be made at the project level based on a site-specific analysis. A reasonable range of alternative methods, including the use of methods which do not involve herbicides, will be examined and evaluated, and IPM principles must be incorporated (Draft EIS pages II-44-46).

that documented by ARC in our comments on the CP/P DEIS. This unjustified and unwarranted bias undermines possible commitment to the use of least toxic, least invasive methods as suggested by the changes noted above.

For example, the AppMt DEIS restates the assumption that "All herbicides... are safe for the public when applied using typical rates and methods" (p. x), expresses similar conclusions about safety for wildlife (xi), continues to characterize opposition to herbicide use in terms of distrust, emotion and uncertainty (I-B), expresses the certainty that "significant drift" from aerial application can be prevented (II-40), and uses virtually intact the seriously flawed risk assessment in the CP/P DEIS (Vol. II). The latter is particularly inadequate in its assessment of potential effects on wildlife. As discussed in our CP/P comments, it fails to fully and fairly discuss potential effects or to provide an adequate basis for decision-making.

The bias in favor of herbicide use is particularly apparent in the choice by the USFS of its preferred alternative, "Alternative D". This alternative provides for the use of herbicides on 40% more acreage of forest land than is currently employed. Yet, the DEIS does not provide an adequate justification for such a choice. The reduction in the use of manual methods and minimal attention to biological methods are equally arbitrary.

Aerial Application Unjustified: The preferred "Alternative D" also proposes the reintroduction of the use of aerial application of herbicides despite the greatly increased risks to the public, wildlife, and the environment posed by the use of this method. The DEIS makes this recommendation without fully and objectively considering all reasonable alternatives.

Aerial application is proposed only where "rugged terrain makes use of other methods impractical" (II-B) and justified on the basis that that aerial application on transmission lines will save costs otherwise "passed on to consumers and shareholders" (II-7B). However, the "rugged terrain" will make inspection of possible damage and monitoring for environmental and wildlife effects difficult or impossible. Rugged conditions in the mountains are highly likely to include steep banks and water courses where pesticide runoff is inevitable. The proposal to shift costs of maintenance from right-of-way users (i.e., "customers and stockholders") to wildlife and the environment is inappropriate and unjustified.

Aerial application is an inherently dangerous activity which should not be employed in the national forests. The DEIS does not adequately demonstrate that the inadequate mitigation measures proposed will make such risks acceptable.

IPM Provisions Inadequate: The AppMt DEIS provides a partial Integrated Pest Management (IPM) framework for making vegetation management decisions. However, the DEIS fails to develop or

- 8 The Risk Assessment is scientifically sound, not seriously flawed, as assured by rigorous scientific review (chapter V) and comments by EPA (Letter No. 529) and the Fish and Wildlife Service (Letter No. 583). Analyses in the EIS and Risk Assessment are conservative (deliberately overestimating risks) and thorough, and show conclusively that with use of our required mitigations (section II.E), drift will be minor (Final EIS page IV-103; appendix A, pages 4-21 and 4-22) and risks to the public and wildlife will be minimal (sections IV.B, IV.D, and IV.E; appendices A, D, and F). Please also see response to comments in Letter No. 289, Comment No. 1.
- 9 See our response numbers 4 and 7 above.
- 10 Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS). Given the very small size of the aerial program and the use of this and other mitigations, the conclusion of the EIS that aerial application poses minimal risks to people, wildlife, and the environment is sound. See our response to Letter No. 1.
- 11 The Forest Service has committed itself to delineating clearly-marked buffers and doing monitoring in such terrain to avoid the adverse effects you mention (Final EIS pages II-65-67). Note that buffers along roads, trails, and streams have been widened to at least 200 horizontal feet to provide greater protection in mountain terrain.
- 12 The mitigations are direct, forceful, and very adequate to provide the needed protection, and the EIS conclusively shows this (sections IV.B to IV.G). See especially mitigation numbers 3-5, 7-8, 16-21, and 24-26 on pages II-61 to II-67 of the Final EIS.

- 13 consider a complete IPM framework for decision-making on an IPM alternative among the various alternatives considered. As such, the DEIS fails to rigorously explore and objectively evaluate all reasonable alternatives as required by the National Environmental Policy Act (NEPA).

- 14 Monitoring: Monitoring is an essential part of a true IPM program, but the monitoring proposed in the AppMt DEIS appears to be wholly inadequate for an IPM program. Some monitoring of environmental effects during and after treatments is proposed. The monitoring is to be limited ("most done just after treatment"), short term ("will seldom occur beyond three years"), and optional ("Routine projects whose effects are already well documented may not be monitored"). (1-5) Other unstated limitations will restrict even the limited monitoring of environmental effects proposed. For instance, monitoring of aerial applications will be severely restricted since, in the preferred alternative, its use is to be limited to remote areas.

Monitoring for integrated pest management is much broader and more extensive than proposed in the AppMt DEIS. Monitoring is necessary before treatment to determine the nature of potential pest problems, on a continuing basis to alert managers to pest populations that are approaching damage thresholds, and following treatment to evaluate the effectiveness control measures. IPM monitoring is designed to evaluate pest populations in relation to other species, to determine the presence or absence of natural predators or other limiting factors, and to determine growth patterns and treatment thresholds. Monitoring for environmental effects of is only one purpose of monitoring in an IPM program. But, it appears to be the principal, if not the sole, purpose of monitoring in the AppMt DEIS.

A more complete discussion of a forest management IPM program is contained in ARC's comments on the CP-P DEIS and attachments referenced above and is summarized as follows:

- 15 Monitoring and analysis to understand pests in relation to their total environment; managing unwanted vegetation with regard for the entire eco-system and its long-run sustainability; emphasizing prevention and natural processes; intervening early at signs of potentially significant damage in order to avoid large scale remediation later; employing the least invasive and least toxic methods, with herbicides as a last option; and using follow-up monitoring and evaluation as a part of a continuing program.

- 16 Monitoring for environmental effects is included in the AppMt DEIS in a discussion of an IPM-like framework. But, the narrow and limited monitoring that is proposed does not constitute what is required to meet the needs of IPM and the framework within which it is placed is not IPM. The treatment of monitoring is indicative of the piecemeal and incomplete approach to IPM contained in the AppMt DEIS.

- 13 Please review mitigation number 3 on page II-46 of the Draft EIS. IPM is a decisionmaking, action-forcing process, and as such is appropriate in all of the considered alternatives rather than as a basis for an independent alternative.
- 14 Monitoring of pest populations is beyond the scope of this EIS.
- 15 We disagree with the statement that IPM requires "...herbicides as a last option." This is not good IPM since within the process it arbitrarily constrains the consideration of viable tools for vegetation management. However, herbicide mitigation numbers 4-8 on pages II-58 and -59 are in complete accord with the concept of "least invasive and least toxic..." as applied to herbicide methods.
- 16 Monitoring is required across the full spectrum of vegetation management activities and potential effects (section II.E).

Relation to the Forest Management Plans: The AppMt DEIS recognizes that development and choice of an appropriate vegetation management plan is tied to the implementation of forest management plans. That recognition constitutes a necessary step for sound vegetation management.

- 17 However, the AppMt DEIS fails to give the public and decision makers adequate basis for selecting between the alternatives. It is impossible to reasonably decide on the overall number of acres which should be treated, for example, or the number to be treated by a particular method, without directly relating such decisions to the forest management plan.

- 18 Decisions on clear cutting versus selective harvesting, for example, may have a direct bearing on plans for the use of herbicides for site preparation, release of young trees, and maintenance of access routes.

SUPPORT FOR OTHER COMMENTS:

In addition to the above comments, the Agricultural Resources Center supports the following comments on the AppMt DEIS:

- 19 --Letter by Douglas N. Rader, PhD, Raleigh, NC. Senior Scientist, Environmental Defense Fund of North Carolina, to USFS dated February 23, 1989. Dr. Rader identifies an extensive list of at least 36 sensitive vascular plants in National Forests in North Carolina which are not considered in the AppMt DEIS. The present list is a companion to his list of about 20 sensitive endangered species of plants and animals not considered in the CP/P DEIS. According to Dr. Rader, neither list is comprehensive and both apply only to North Carolina, one of ten states in the CP/P sub-region and of seven in the AppMt area.

The exclusion of so many sensitive, threatened, and/or endangered species from consideration in the DEIS constitutes a very serious failure to completely and objectively consider the effects of the alternatives on wildlife, especially rare and endangered species as required by NEPA. This failure is doubly critical when the wholly inadequate nature of the assessment of risks to wildlife in general in the DEIS is recognized. The proposed use of herbicides under the circumstances is arbitrary and unjustified.

- 20 --Comments by Walton Smith, Asheville, NC, Retired Forester, for the North Carolina Alliance. Working within the framework of the methods and alternatives proposed by the USFS, Mr. Smith proposes a mix of methods to treat about two percent of the forests in the AppMt sub-region. Mr. Smith's alternative proposes the following: herbicides, 5%; prescribed fire, 5%; manual, 45%; mechanical, 44%; biological 1%.

Mr. Smith's proposal appears to be closer than any of the alternatives in the DEIS to the results that might be achieved if an alternative were developed starting from a value-oriented

- 17 The decisionmaker has not identified this shortcoming and based on comments from the public during Draft EIS review at least 198 people were able to select an alternative that satisfied their preferences. We agree there is a direct relationship to Forest Plans. There are numerous references in the CEQ Regulations for implementing the National Environmental Policy Act which encourage agencies not to ignore previously completed analyses and environmental documentation, see 40 CFR 1502.20, 1500.4, 1500.5, 1502.4, 1501.7(a)(3) and 1506.3. The rationale for choosing the selected alternative will appear in the Regional Forester's Record of Decision accompanying the Final EIS.
- 18 The issues of clearcutting and selective harvest are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest. Their relationship to vegetation management, however, is discussed in Final EIS section I.B.
- 19 See response to comments in Letter No. 471.
- 20 See response to comments in Letter No. 474.

perspective of Integrated Pest Management. That is the approach ARC supports as the most appropriate means of developing vegetation management plans under NEPA. Mr. Smith's alternative should not be accepted as a substitute for a rigorous and objective evaluation of all reasonable alternatives as required. However, it should be considered an appropriate guide in light of the failure of the Forest Service to fully and objectively follow the NEPA process.

21

--Comments and Petition by Ms. Ellen John, Asheville, NC, for the North Carolina Alliance. Ms. John has submitted comments opposing pesticide use in the National Forest as proposed in the AppMt DEIS in letters of January 30, 1989, and other dates. She has also submitted a petition opposing the use of herbicides in the National Forests. The petition, on which more than one thousand signatures were gathered in a very short period of time, reads in part:

We, the undersigned, strongly oppose both ground and aerial spraying of herbicides in the National Forests. These are extremely toxic chemicals whose detrimental present and future impact on human health, wildlife, plant ecology and water systems has not been responsibly assessed.

22

ARC believes that these comments, and this petition, accurately reflect the sentiment of the general public and their well-justified concerns about the known and unknown effects of pesticides. They reflect in particular skepticism of the AppMt DEIS and its wholly inadequate consideration of the effects of herbicides on wildlife and the environment. The petition is a demonstration that its assumptions favoring herbicides are not justified and its conclusions are not persuasive.

CONCLUSION:

The U.S. forest Service Draft Environmental Impact Statement for the Southern Region, Vegetation Management in the Appalachian Mountains is seriously deficient in a number of important respects including those detailed in the above comments. It is important that these concerns, particularly as they relate to herbicide use, be addressed by the forest Service before a final EIS is adopted.

Thank you for your consideration of these comments. We continue to be willing to cooperate in modifying the DEIS in order to help achieve a sound proposal.

Sincerely,

Allen Spalt
Allen Spalt
Director

21 See response to comments in Letter No. 296.

22 We take our responsibility to evaluate public comment extremely seriously. Signers of the Asheville petition clearly oppose herbicide use in the National Forests; however, since many of them neither requested nor reviewed copies of the Draft EIS, suggesting that their signatures render the EIS inadequate is inappropriate. See also our response number 4 above, second paragraph.

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**DRAFT ENVIRONMENTAL IMPACT STATEMENT
VEGETATION MANAGEMENT IN THE APPALACHIAN MTS.
RESPONSE FORM**

We're providing this form to make it convenient for you to respond. You need not use this form though.
However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives: I feel that alternative F would be a better choice over alternative D. I am opposed to the increase in use of herbicides in the National Forest that D would provide. Alternative F which would totally eliminate the use of these toxic chemicals in the forest is what I want. The only totally safe amount of herbicides in our National Forest is no herbicides.

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Glenn Dale Bryant

Name First MI Last (Organization)

309 N. Thomas Street

Street
Jacksonville, AL 36276

City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 485

From: Glenn Dale Bryant

Comment No.

Response

- 1 Your preference for alternative F was included in the content analysis of all comments received. Also please see response to comments in Letter No. 522, Comment No. 1.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

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RESPONSE FORM

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Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Vegetative management should meet the Visual Quality Objectives for the location in which it takes place.

- 1 Why? Vegetative management should meet the Visual Quality Objectives for the location in which it takes place.

Comments on Alternatives:

Vegetative management should meet the Visual Quality Objectives for the location in which it takes place.

Why? Vegetative management should meet the Visual Quality Objectives for the location in which it takes place.

Other: Vegetative management should meet the Visual Quality Objectives for the location in which it takes place.

Why? Etc.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

JAMES E. LOESEL, Citizens Task Force

Name First MI Last (Organization)

2753 Tanglewood Drive SW

Street

Branch VA 24015

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 486

From: James E. Loesel

Comment No.

Response

-
- | | |
|---|---|
| 1 | We agree. See mitigation number 1 (Draft EIS page II-44) which requires site-specific analysis prior to any action. |
|---|---|

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DRAFT ENVIRONMENTAL IMPACT STATEMENT
VEGETATION MANAGEMENT IN THE APPALACHIAN MTS.
RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.
However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: I do not prefer
Alternative D.

Why? HERBICIDES MAY BE COST Efficient
in the short run but the cost to the
ecological chain and human health concerns
is ⁴⁰ Comments on Alternatives: high.

1 My Preferred Alternative is F.
Alternative F is very much cheaper
and would provide added jobs.

Why?

YEARS FROM NOW - People will show
up with various forms of carcinoma
from being exposed to carcinogens
in the herbicides.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and
drop in the mail (no postage necessary).

DENA - LOWRY LPN

Name: First MI Last (Organization)

CAPRI APT. C, 522 N. Garsch St.

Street
Tusculum, AL. 36265

City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 487

From: Dena Lowry

Comment No.

Response

- 1 Your preference for alternative F was included in the content analysis of all comments received.

In the Final EIS, only class A herbicides are available for use without Regional Forester approval. None of these herbicides (page II-42 DEIS) have known carcinogenic effects. Please refer to appendix A. Also see mitigation measures for herbicides on pages II-58-67 in the Draft EIS.

Also please see response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: I believe some of the scientific analysis is deceptive, especially regarding herbicides. London 101 one of your most widely used chemicals is inadequately tested. Its two components are tested separately and assumed only slightly in combination. A careful reading of the first ~~why?~~ print is necessary to even see mention of Taydos. In one analysis of picloram, it is implied it is the only ingredient of London.

Comments on Alternatives:

2 We prefer Alternative F. The risks posed by herbicides are too great, there are too many long term unknowns. ~~Poor~~ Poor application technique, and poor handling procedures make herbicides a risk not worth taking.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Walter J. Rybka Rowan County Wildlife Club
Name: First MI Last (Organization)
At 1 Box 123
Street
Morehead Ky 40351
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 488

From: Walter J. Rybka

Comment No.

Response

1 Please see page II-34 of the Draft EIS where Tordon 101 and 101^R are clearly identified under their active ingredient (2,4-D). Also see herbicide mitigation number 7 in chapter II of the Final EIS. In the Final EIS, class B and C herbicides require Regional Forester approval prior to use. See chapter II herbicide mitigation measure number 3 in the Final EIS.

2 Your preference for alternative F was included in the content analysis of all comments received. Also see response to comments in Letter No. 522, Comment No. 1.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: IT APPEARS THAT MOST OF WORK WAS PUT INTO THE COLLECTION AND ANALYSIS OF DATA. UNFORTUNATELY WE HAVE NO WAY TO OR TIME TO VERIFY THE RESULTS. THE AMOUNT OF DATA APPEARS TO BE SUFFICIENT TO SUPPORT THE DECISION MAKING PROCESS. WE CANNOT HELP BUT TO BE VERY UNEASY WITH THE USE OF HERBICIDES.

Why? Using IN THE GENERAL AREA OF THE RANGLER WILDLIFE REFUGE, WE HAVE SEEN PARTS OF THIS AREA BE SPOILED FOR A LONG TIME BY THE USE AND WASTES OF DDT. WE HAVE A HARD TIME BELIEVING THAT THE SO CALLED LOW RISK HERBICIDES ARE SAFE TO USE SINCE MOST OF THE RESEARCH IS FUNDED BY THE COMPANIES MAKING THE HERBICIDES.

Comments on Alternatives: WE RECOMMEND ALTERNATIVES B OR F.

Why? WE AGREE SOME TREATMENTS ARE REQUIRED SO ACT "A" IS NOT DESIRED. WE RECOMMEND USING LITTLE TO NO HERBICIDES WITH THE MAJOR EMPHASIS BEING ON MECHANICAL METHODS AND FIRE WHILE PREVENTING SOIL EROSION. UNEXPECTED DAMAGE CAUSED BY FIRE AND MECHANICAL METHODS CAN BE CORRECTED MORE EASILY THAN DAMAGE BY HERBICIDES.

Other:

Why?

IT IS OUR OPINION THAT A REDUCTION IN THE USE AND PRODUCTION OF HERBICIDES WILL ALLOW OUR ENVIRONMENT TO REVERSE THE DESTRUCTIVE TREAD THAT MAN HAS CREATED BY HIS POLLUTION.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

MRS. RICHARD G. ALFIERO

Name First MI Last (Organization)

RT 3 Box 155E

Street

SCOTSDALE AL 35768

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 489

From: Mr. & Mrs. Richard G. Alfiero

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

1701 Amberly Dr.
Durham, N.C. 27704

USDA FOREST SERVICE
1720 PEACHTREE RD. N.W.
ATLANTA, GA 30367

2-14-89

Dear Forest Service:

I am writing in response to your "Draft Environmental Impact Statement: Vegetation Management in the Appalachian Mountains".

- In response to your question: "Do the Alternatives respond to your concerns?"
1. I would have to say "No". Alternative "A" comes closest. I do feel that your analysis is biased in favor of an interventionist attitude, point of view, or philosophy. There is a strong desire, it seems, to describe the advantages of intervening; and little effort to describe what is to be gained by letting nature run its course.

2. This is what I would like to see the Forest Service adopt as its mission: to protect the forests from intervention, destruction, of change wrought by man. Your purpose appears to be to divide. The national forests cannot satisfactorily be everything to

Response to Comments in Letter No. 490

From: Terry Kitson

Comment No.

Response

- 1 The commenter's preference for alternative A was included in the content analysis of all comments received. Alternative A has some favorable effects, it also has effects considered unfavorable by other commenters. Alternative A exhibits effects which occur when no vegetation management is done. In this alternative favorable effects exist, but so do unfavorable effects, and both must be recognized and evaluated (see chapter IV and chapter II, part G of the Draft and Final EIS's). Also, all tools impact the environment and when used improperly can cause serious "mistakes" and/or accidents.
- 2 National forests are mandated to produce a variety of goods and services. In order to fulfill this mandate, some manipulation of natural processes is necessary. One of the principal assumptions shaping this analysis is that Forest Land and Resource Management Plans establish levels of outputs of goods and services, and this EIS displays several ways to manage vegetation to support those levels in alternatives B through H. Though management for these specific goods and services sounds familiar, it should not be viewed as Forest Service desires or standard practices. Land and resource management planning is an exhaustive process with very intense public participation. Output goals and objectives are based on this partnership with the public.

2

to everybody. They can not be some sort of agri-business factory, wildlife zoo, sportsman's paradise, natural preserve, and natural wonder amusement park.

^{employment opportunities} I favor a natural preserve with minimal access provided by having manually, well-maintained trails, an "Alternative" not provided, by the way.

I believe the forest service's role is to protect and preserve the forests by minimizing the effects of man, be they "good or bad," by not mangling nature. Let nature to the management. Species should be protected from man.

However if we are interfering in the natural evolutionary process by attempting to maintain a species without a natural habitat or means to survive, these species should be relocated or maintained in zoos. The goal I feel is to protect nature from us not itself. It appears

3

that you do not "trust" natural events. On one hand you want to stop those processes that probably create balds (fire?) while on the other hand you want to use herbicides^{etc} to prevent foliage from encroaching on the balds. You treat them like some sort of cultivated rock garden.

3

Please see response to comments in Letter No. 557, Comment No. 2.

Fire as well as other methods may or may not play a role in maintaining balds. Mitigation measure number 25, page II-52 of the Draft EIS, requires a detailed management plan for each bald that describes objectives, appropriate tool mixes, and protective measures. Mitigation measures for each method of vegetation management used are also included in chapter II.

3

- 4 Your concern or priority with economics bothers me. ~~The~~ The national forests should not be the stock room of raw materials for the private sector. Having wild areas has economic benefits that go far beyond the local economy. A locale becomes desirable and attractive to businesses, retirees, and sportsmen. Those industries that supply these populations benefit as well. Health costs ~~from~~ added from having areas like this are probably impossible to measure but exist and are significant. Let manufacturing forests be developed by private enterprise. Let amusement-type recreation vehicle use areas be developed by the private sector as well. I request that you focus your energies on protecting what we have so that someday there will ^{be} areas that resemble the natural states that existed before the continent was settled - in our national forests.

Sincerely,

Jerry Kitzan

P.S. - I appreciate the work that went into the report I just read. Thanks for including me.

The commenter has made several good points. However, the EIS describes the environmental effects and consequences of eight different alternatives (see chapter IV). It evaluates the tools and methods used in each. While economics is important, it was certainly not the overriding criteria for recommending a preferred alternative (see Comparison of Alternatives in section G of Chapter II). The economics of forest management in general is appropriately discussed in individual National Forest Land and Resource Management Plans.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.

Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Please see enclosed comments in behalf of Birmingham Audubon Society, The Alabama Conservancy and the Alabama Ornithological Society.

Why?

Dear Mr. McCorquedale —

Many thanks for your reminder to submit comments, and we apologize for not getting these to you sooner, but there have just been too many intervening emergencies especially in the last weeks. However, this is being mailed tonight (2/15) from our downtown post office, so you should

Comments on Alternatives:

still receive it Friday by the deadline. In any event, we sincerely ask your consideration of our comments.

Why?

Please note our preference for Alternative E with the addition of prescribed burns at the present level. This is because (i) they are less costly, (ii) they are needed for hazardous fuel control, and (iii) they are needed for development of needed habitat for the Red-cockaded Woodpecker.

Other:

Sincerely yours,

Bob Reid
Robert R. Reid, Jr.

2/15/89

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name First MI Last (Organization)

Street

City

State

Zip Code

← Tear at perforation

Response to Comments in Letter No. 491

From: Robert Reid

Comment No.

Response

1

Your preference for alternative E with modification was included in the content analysis of all comments received. The Final EIS analyzes an alternative I that closely approximates your preference.

2616 Mt. Brook Pkwy.
Birmingham, Alabama 35223
February 15, 1989

Mr. John E. Alcock, Regional Forester
U. S. Forest Service
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

Dear Mr. Alcock:

We write, in behalf of the organizations listed below and their members, to respond to the draft Appalachian Mountains EIS for Vegetation Management and urge strongly that the Forest Service adopt Alternative E with a modification to increase prescribed controlled burns to the present level (and a consequent reduction in the other vegetation management methods) so to obtain a more cost-effective mix and to preserve sufficient use of prescribed fire as a management tool. We submit that Alternative E, as so modified, would then have the following significant components that should be part of any vegetation management plan for the Appalachian Region (references are to pages in the DEIS and its Appendix):

- 2 (1) Increased manual labor -- and mechanical methods to the extent they increase manual labor -- are particularly important in the Appalachian Region. As you know, this region has one of the highest rates of unemployment in the Nation, particularly of unskilled persons. By these methods, with minimal instruction, many of the unemployed or underemployed in this area could be placed in a much better economic position, both in the short-run and the long-run, which would also have the secondary advantage of relieving the government of some of the costs of its public assistance programs, a very desirable end in view of the present budgetary deficit, and also promoting the desirable end of improving the position of such workers as productive members of the economy. Since Alternative E is one of the two alternatives with the highest employment, and also the highest use of mechanical methods, it is particularly desirable for those reasons in Appalachia.
- 3 (2) Mechanical methods are limited under Alternative E to techniques causing low to moderate soil disturbance, and your EIS adequately shows many reasons for so limiting soil disturbance to moderate levels and avoiding high soil disturbance techniques like raking and disking.
- 4 (3) Alternative E reduces the use of herbicides to the more reasonable figure of 12,700 acres, which is much preferable to the 34,300 acres recommended under Alternative D and which should be adequately replaced by the other proposed methods (II-11). Introduction of herbicides into the environment is a practice that should, if at all possible, be avoided and certainly should where there are, as is the case here, several adequate substitutes. Herbicides pose a number of risks, some of which are discussed in the DEIS and some of which are not (see below). Particularly is this the case where the government is dealing, as here, with numerous forms of animal and plant life, many of which are very small and, hence, fragile but necessary for preservation of the forest ecosystem that is one of the main missions of the Forest Service.
- (4) While Alternative E does preserve some use of herbicides and, thus, makes them available for use in areas where there is a special need, it does not employ aerial application. This is most important since the likelihood of affecting non-target

- 2 Alternatives E and I do provide more employment than the current or preferred alternatives. But the differences are very small, amounting to less than one job per county between alternatives A (least employment) and H (most employment). See Final EIS page IV-133 and response to comments in Letter No. 57, Comment No. 3.
- 3 This same limitation is imposed on all other alternatives except C and H (EIS section II.B).
- 4 As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter I, immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1. These changes increase the level of assurance that adverse effects from herbicide use will be minimal, as disclosed in detail in EIS sections IV.B through IV.G.

With aerial application limited to 400 acres per year (less than 1/100 of 1 percent of the Appalachian national forests) of rugged, remote, and uninhabited utility lines only (Final EIS page II-10) with a minimum 200-foot buffer along roads, trails, and streams (Final EIS pages II-65 and II-67), risks to organisms and water are very low (EIS section IV.G.1, for example).

organisms is, of necessity, much greater with aerial application. In addition, even if it is attempted to avoid watercourses, the natural effects of seepage and drainage mean that the herbicides are bound to reach non-target organisms, groundwater and even watercourses merely through unavoidable human and mechanical errors.

(5) Much of Appalachia involves steep -- and often extremely steep -- hillsides; and the Forest Service employs even-age management as one of its practices. Combining that clear-cutting with broadcast application of herbicides can greatly exacerbate the existing serious erosion problems. Consequently, in this region, if the Service is going to employ even-age management, it is important not to increase the use of herbicides, and particularly their aerial application.

(6) Our recommended Alternative E, as modified, would permit use of prescribed fire through controlled burns to be maintained at the present level. We, however, would recommend that the burns be limited to low to moderate intensity so as to avoid adverse effects on soil productivity that are noted in the EIS as well as possibilities that fires of greater intensity may get out of control. As you know, prescribed fires, in addition, are a very useful tool in managing the recovery of endangered species, such as the Red-Cockaded Woodpecker and many of the pitcher plants. It is also helpful in addressing the definite need for hazardous fuel management (II-11) and has the lowest per acre cost (Intro. xii).

(7) Although biological methods are not discussed in great detail in the EIS, there is greater use of them under Alternative E. We recommend strongly that the Forest Service explore more possibilities of biological management (some of which are noted at II-41), and also by planting hardwood lanes or strips throughout pine stands where there is a monoculture being developed so that those strips could protect or limit those stands from insect infestation (such as the Southern Pine Beetle that has already been regarded as serious enough to merit an EIS) -- see discussion below.

You are not proposing an alternative that contains all of these desirable features, but we feel that is due to the alternative development process (as outlined at II-1) where selection of alternatives is not constrained by funding availability. We believe that is unrealistic, particularly in these times of such a high budgetary deficit. There is no alternative that (i) increases manual and mechanical methods and (ii) at the same time retains prescribed burns (even though not of high intensity) at their present level. As noted, prescribed burns have the lowest cost per acre. Consequently, what is needed is a mix that includes them (for the economic and several other reasons set forth above) and still increases manual and mechanical methods so as to generate needed employment in Appalachia. Alternative E, so modified, would fit these requirements and, thus, it would have sufficient multiple advantages to make it the superior alternative. (Please note, that unlike Alternative G, it would not completely eliminate use of herbicides and, hence, would make them available for use in selective locations where considered absolutely necessary -- one such example mentioned in the EIS was on steep hillsides, but there should be limited necessity because of the inaccessibility of hillsides to logging machinery, coupled with the added exacerbation of erosion problems.)

We recognize that the Forest Service has already designated Alternative G as its preferred alternative; but it would appear from the statements made in the EIS itself, including the Appendix, as well as the other factors discussed below, any increased use of herbicides -- and particularly the aerial spraying of them -- would be a decision that the Service, in the exercise of its stewardship over the national forests (which are now more and more refuges for the Nation's plant and animal species) should avoid.

- 5 Herbicide treatments for site preparation and timber stand improvement, following timber harvest, will be only 0-10 percent broadcast (Final EIS page II-11) and with aerial application never allowed. Thus erosion will be far less than the minor amount that sometimes follows broadcast treatments (EIS section IV.F.3).
- 6 Only low to moderate intensity prescribed fires are allowed in all alternatives except C and H (EIS section II.B).
- 7 The suggested prevention tactic for southern pine beetle control is beyond the scope of this document. At present the only biological vegetation management option is livestock grazing on balds. Our only prudent option regarding other biological methods is to defer their use until they prove successful at operational levels (Draft EIS pages II-41 and II-43). See also our response to your comment number 1.
- 8 Alternative D is the preferred alternative in the Draft EIS for the Appalachian Mountains. See also our response to your comment number 4.

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In addition, we are sure you realize, and as the litigated cases state, the final decision is not to be made before completion of the full EIS review process. In other words, an EIS is not to be relegated to mere paperwork to justify a decision already made. Please see, for example, Calvert Cliffs Coordinating Comm. v. AEC, 449 F.2d 1109 at 1128 (D.C. Cir. 1971), Burkey v. Ellis, 483 F.Supp. 897 at 914-16 (N.D. Ala. 1979), and cases cited therein. Consequently, we strongly request your reappraisal in light of the above factors and the adoption of Alternative Z, as so modified. Please note also that all respondents supporting Alternatives A, B & F should be counted in favor of Alternative Z once those other alternatives have been eliminated from consideration, and so should Alternative C if E were modified to retain the present level of prescribed burns.

Other considerations bearing on the above are as follows:

(A) Adverse Effects and Risks from Use of Herbicides. The reduction in herbicide use is one of the positive factors for Alternative E and a negative factor for Alternatives D, G and H. Some of the more significant adverse effects are:

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(a) Toxicity to Humans. While the Forest Service is making some conservative assumptions in preparation of this EIS, it is also making some rather liberal -- and perhaps unrealistic -- ones. For example, the cancer risk to the general public is based on a calculation of only one maximum exposure in an entire lifetime (App. 5-39), which would seem a rather liberal assumption. The same is true as to the cancer risk to workers in that they receive a maximum exposure in only 10% of their working years. In addition, while it is difficult to determine which herbicides are proposed to be used in what areas, 2, 4-D is always the first one mentioned. It is, we understand, now considered by EPA to be a possible carcinogen, and there is some evidence of its teratogenicity and reproductive toxicity in rats, mice and humans. There has been much concern about this, and this situation has led ChemLawn, the Nation's largest lawn care company, to stop using that herbicide. We do not see these facts mentioned in the draft EIS, but we do note that you are considering 2, 4-D and its relatives, notwithstanding that you do mention EPA is requiring further testing and re-evaluation. It would seem only prudent not to engage in application of a herbicide over wide areas while it is still under investigation, is thought to be carcinogenic and has even been dropped from use by one of its principal users. We recognize that human contact with lawns should be greater than with lands in the national forests; but, especially if aerial application is used, a herbicide could be concentrated in watercourses, and then there will always be greater contact on wildlife and sensitive plants with a herbicide in the national forests than on a lawn.

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(b) Toxicity to wildlife. It is stated that the risks to wildlife from the use of 2, 4-D are moderate as are 2, 4-DP. However, reference to Table 8-1 shows that the extreme dose estimate exceeds, in all but the largest mammals, the 1/5 LD₅₀ dosage, which is considered a significant risk; and, in some cases (in fact, for two of the avian and four of the mammalian species), they approach or exceed the LD₅₀ dose, which is deemed unacceptable. The same occurs in a greater number of cases for 2, 4-DP (Table 8-2) and, as to the comparison between the extreme dose and the 1/5 LD₅₀, for triclopyr (Table 8-14).

Further, in the surrogates for avian and mammalian toxicity, it has been assumed that the most closely related species are used (App. 8-2); however, the surrogates are not actually closely related at all and, except for a few mammals, are in entirely different and removed orders. In addition, it must be recognized -- and this is very significant -- that the laboratory species on which the tests have been made are, in the case of birds, species with much, much greater body weight than those normally found

- 9 No decision has been made. We have disclosed our preference based on the analysis and in accordance with 40 CFR 2502.14(e). The final choice will be made after consideration of this and other public input.

We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

- 10 Please refer to mitigation measure numbers 4-8 (pages II-58 and -59, Draft EIS) required for the preferred alternative. These measures make it highly unlikely for anyone - worker or public - to EVER be exposed to the maximum herbicide dose evaluated. The assumptions used are indeed conservative. 2,4-D, 2,4-DP, and tebuthiuron all fall primarily into class B and so can be used only in very rare circumstances under mitigation number 7 (page II-59, Draft EIS). In the Final EIS, these herbicides are not used without Regional Forester approval, and then only in cases where class A herbicides will not meet the desired objective and a site-specific analysis shows that all adverse effects will be fully mitigated.

- 11 Mitigation measure number 5 (page II-58 in the Draft EIS) states that "Application rate and work time will not exceed those shown as typical (tables 4-4 through 4-6, appendix A) unless a supplementary assessment of risk establishes that proposed rates will not cause unacceptable risk..." This mitigation is a direct result of the point you are making. Mitigation measure number 9 (pages II-59-60 of the Draft EIS) establishes buffer zones for species likely to be at risk from normal application rates of certain herbicides. These mitigations are the basis for our conclusions on the risks of these chemicals to wildlife.

Although some surrogate species are not closely related to the laboratory species, the best data currently available were used. Differences in body weights, food habits, and potential routes of exposure were accounted for in the Risk Assessment. Species were chosen for analysis to represent a wide variety of food chain niches. Conservative assumptions were made to deliberately overestimate risk, and the process was exposed to rigorous scientific review (EIS chapter V). Please refer to chapter IV of the Draft EIS for a discussion of data gaps and costs of acquiring additional data versus the likelihood of risk to wildlife from the herbicides analyzed.

in the forest. The smallest one in the table is the Eastern Bluebird, which must be at least twice the body weight of many of the warblers and similar species that are primary inhabitants of the eastern deciduous forest (the Oak-Hickory forest which is the climax forest of this area). Extrapolation of body weights can be made, but when the size differential is between a small wood warbler and a Chukar Partridge or Mallard Duck, it becomes unrealistic. It is easy to realize the significance of the small body weight of many avian species if you hold a bird that has been banded or killed through a migration casualty; and, if the estimate exceeds the LD₅₀ for a bluebird, it doubtless exceeds it for those species. Exacerbating this situation is that these woodland species no longer have as much habitat as they did previously, whereas birds like the bluebird or flicker are edge species and there are plenty of edges left.

It would appear only a reasonable assumption that, based on the data in the DEIS, the toxicity to many of these smaller bird and mammal species exceeds permissible levels. In any event, as stated at App. 8-1: "Toxicity testing has been conducted on relatively few wildlife species, and the testing has been confined to a few avian and mammalian wildlife species." Thus, that toxicity is, at the least, basically unknown. In view of that situation, it would seem only prudent not to take the risk in applying an element to the environment that has admittedly not been adequately tested. Particularly is this so where there are workable alternatives, as mentioned above in the discussion of Alternative E.

12 (c) Adverse Effects of Particular Herbicides. As mentioned above, it is difficult to determine which pesticides might be employed in what areas, but it appears from Table II-1 that practically all being examined are proposed for use everywhere. However, 2, 4-D and its relatives have higher risks to workers, higher risks to threatened or sensitive species, and are the most mobile (x, IV-84, 105). In addition, as mentioned above, triclopyr seems to have similar adverse effects; and we suggest that tebuthiuron should be omitted because of its extreme persistence (half-life of over a year). In addition, its extreme doses are far over the 1/5 LD₅₀ figures (Table 8-13) for many mammal species and approach it for the smaller birds. (See, in this connection, the fact that many of the species have smaller body weight than those on which the herbicide was tested.)

13 (d) Adverse Effect on Endangered Species. The endangered Red-cockaded Woodpecker forages in mature pines by eating insects found in the bark of the trees. Thus, it is stated that herbicides may affect that endangered species directly through oral or dermal doses, and that two herbicides (2, 4-D and 2, 4-DP) appear to present a significant potential for direct toxic effects, especially through aerial and ground mechanical applications (App. 8-24). Because much of the National Forests in the Southeast consists of pines that are, or should be, managed for the Red-cockaded Woodpecker (since this is good timber management also), it would seem that those herbicides should no longer be considered for use in those areas. In addition, present forest management is eliminating colonies and driving the bird into large southern pine forests, thereby restricting its range from that it formerly occupied. Thus, this is a further reason why no additional action should be taken that might impair the recovery of this endangered species. (Please also consider adverse effects on the pitcher plants and other wetland plants.)

14 (e) Toxicity to Sensitive Plants and Animals. The Forest Service has commendably added to the list of endangered species, lists of sensitive plants and animals that it is desirable to protect. In all of the endangered animal species listed in Tables D-1 and D-5, herbicides are considered to pose a significant risk of toxic effects. In all plant species, all of the herbicides have the potential of adverse effect (D-10); and it does not appear reasonable that prohibiting aerial application within 300 feet or ground application

- 12 Table II-1 discloses concerns with several of the herbicides proposed for use. Mitigation measure number 7 on page II-59 of the Draft EIS, made even more restrictive in the Final EIS, specifies that table II-1 will be used to determine herbicide/methods which minimize potential negative effects for any project. This mitigation virtually precludes use of class B, C, or D herbicides on national forest lands.
- 13 This statement, present only in the Draft Coastal Plain/Piedmont document, has been corrected and is not in the subject EIS. See also response number 12 above.
- 14 As indicated in table D-1, in the absence of any mitigation measures, herbicides do pose significant risk of toxic effects to threatened, endangered, proposed, and sensitive species. However, based on the hazard, exposure, and risk analyses for wildlife and aquatic species (sections 6, 7, and 8 of appendix A) and the determinations made in the Biological Evaluation (appendix D), the mandatory mitigation measures in chapter II of the EIS regarding inventory and site-specific analysis requirements; and herbicide selection, handling, application rates, application method selection, drift control, and buffers will adequately protect these species from adverse effects. These buffer widths are consistent with EPA and Fish and Wildlife Service restrictions (Final EIS page II-66), and all data indicate that they are more than adequate when used with large-droplet nozzles in favorable weather as we require (Final EIS pages II-63 and IV-103; appendix A, page 4-21).

within 60 feet is adequate mitigation when most of the herbicides are as mobile as they are. It would seem that we simply cannot rely on mitigation measures to remove those effects — that is just too great a risk and involves too much chance of human or mechanical error. Consequently, it would seem from the present analyses, herbicides should, for that reason, not be applied.

- 15 (f) Adverse Effects on Soil Productivity. Soil productivity depends, in large part, on the activity of microfloral organisms. These are the organisms that, through eons of time, broke down the rocks of the earth's crust and helped create our topsoil. Should we destroy them, we will be destroying the soil's productivity. It is stated at IV-96: Herbicide "use at typical rates required by mitigation measures does not reduce activity of soil biota." However, if a herbicide can destroy a tree, logic would only indicate that the same herbicide would have a more disastrous effect upon smaller plant organisms in the soil. Perhaps you could confine the adverse effects by hand applications; but anything else, being broader, would seem to have the potential for very adverse effects on the soil. Again, this is an example of unknown risks that should be avoided. Back in the days of DDT and its derivatives, the applicators did not appreciate the extra risks that those insecticides were having on other populations. Even today, we can spray to kill one insect pest and, by also killing certain predatory insects, cause an outbreak of another pest. These risks to the inter-relationship of all of these forms of life should be avoided if possible and, since in this case there are viable alternatives, it would only seem prudent to avoid those risks.

- 16 (g) Comparison with Other Risks. We note the comparison in App. 5-41 of cancer risks to other common risks. We feel that such a comparison should not be made. The addition of extra herbicides to the environment should be considered the incremental risk that it is. People are already using the automobile extensively or taking transcontinental air trips and such, so it would seem only reasonable to consider that the addition of another risk should be considered as an addition to those existing conditions. In other words, it would be unreasonable to expect people to give up certain traveling habits in order to spray additional herbicides in the National Forests; thus, when placed in that perspective, that comparison should not be used as a justification for subjecting people or wildlife to additional risks from herbicides to which they are not now subjected.

- 17 (B) Deficiencies in Preferred Alternative. In addition to the adverse effects inherent in increased application of herbicides, we question the desirability of some of the theme elements of Alternative D (II-8). It does not appear that Alternative D actually increases prescribed fire from the present situation (Alternative C) but, instead, they remain about the same. Further, the trend in right-of-way maintenance is to move away from herbicides to a better ground-cover such as wildflowers, with the lead given in Texas but now used from there to northern states. Use of a right-of-way cover of native plants has proved less expensive than grasses, conducive to reduction of litter, promotion of a tourist attraction, and elimination of the runoff of herbicides. With all of these multiple benefits, the Forest Service should not be moving in the opposite direction of greater use of herbicides on our rights-of-way, which, themselves, now clearly show through numerous examples the effects of broadcast of herbicides beyond the areas where they were initially intended to be placed. We also question a change to herbicides for use in "wildlife habitat improvement" because of the toxic effects on wildlife discussed above.

- 18 (C) Additional Adverse Effects and Risks from Aerial Application. We understand the Chief of the Forest Service has or had suspended all aerial applications of herbicides. We believe that was quite proper. Non-target vegetation is obviously at a higher risk (IV-145, 148), and the aerial application, of necessity, increases the risks of acci-

- 15 The consensus among scientists that have studied the topic is that use of herbicides at our low rates (Draft EIS, page II-58) does not yield high enough concentrations to adversely affect soil microflora (appendix C, page C-10). These herbicides are not general biocides but are formulated specifically to affect the more complex metabolic processes of higher plants that are absent in microflora (Draft EIS page IV-96). The major threat to soil productivity is not toxicity to soil organisms, which recover rapidly from disturbance, but loss of organic matter and nutrients (Draft EIS, pages IV-86-98).
- 16 Disclosure of the fact that the cancer risk from herbicide use is less than many routine cancer risks accepted by the majority of modern Americans merely puts the specific risk into perspective. Additional information relating to cumulative effects is impossible to evaluate on a sub-Regional basis, except that no evidence exists indicating the possibility of a significant adverse effect to human health or the environment from herbicides used in the low quantity mandated within this EIS.
- 17 Alternative D does increase use of prescribed fire over alternative C by about 2,200 acres per year. Texas is an excellent example of where herbicides have been used to increase wildflowers over grasses in rights-of-way, as explained on Draft EIS page IV-59. Use of selective herbicide treatments only in wildlife habitat (Draft EIS pages II-9 and II-10) is needed to kill encroaching shrubs and vines in wildlife openings and reduce sprouting of undesirable understory and midstory trees (Final EIS page I-5), without the erosion caused by disking and the adverse vegetation effects of more intense or broadcast methods (EIS sections IV.C and IV.F).
- 18 Technology required for the application of herbicides poses lower risk than that used to apply insecticides (eg. guthion). Risk of drift is minimal when mitigations are followed (Final EIS page IV-103). See our response number 4 above.

dental pollution of streams (Intro. xi). The Service may set out definite guidelines to curtail the additional risks from aerial spraying. Nevertheless, there is human error. The spraying is done too high from the ground, there is wind drift that brings it onto additional areas or watercourses, etc. It can be said that these were errors and contrary to the rules for application, but aerial application inherently introduces such risks and they are just bound to occur. Thus, in view of the problems with herbicides outlined above, certainly aerial application should not be employed. Hence, Alternatives G and H would not be appear to be acceptable risks for the forest environment that the National Forests are intended to preserve. It is stated that Alternative D will involve aerial application only on utility rights-of-way, but there have been lawsuits in Alabama over drift from that very practice.

19

(D) **Need for Hardwood Strips as a Management Tool.** It is reasonably common knowledge, and is evidenced by the amount of controlled burns included in existing practice (Alternative C), that much of the National Forests in the Southeast are being managed for the growth of pines. That has resulted in much controversy over insect invasions that are attracted by a monoculture and as is evidenced by the relatively recent EIS for the Southern Pine Beetle. One management tool that should be used, when such pure pine stands are created, is to intersperse among them hardwood lanes or strips so as to prevent the spread of any beetle or other insect infestations. This is similar to the present practice of cutting lanes similar to fire lanes around them after an infestation occurs, but would be preventing it in advance and probably with much less expense. These lanes, for purposes of conservatism, could probably be twice the width of the fire cuts now made by the Service around beetle infestations and could be accompanied, if deemed necessary, by open lanes to make a greater break in the monoculture.

The Forest Service seemingly considers this a question of silviculture and is not considering it in this management EIS (I-7); however, such hardwood lanes are a management tool and would seem to meet the definition of vegetation management set forth at the beginning of the introduction. This is a tool that should be employed as long as you are to permit the development of pure pine stands because, just as you would eliminate some hardwoods from those pure stands, experience now dictates that ample hardwood strips be planted to break them up so as to protect them against what is at least sometimes considered an epidemic insect problem. Those hardwood strips would also promote one of the desired ends of forest management, i.e. providing, through a diversity of habitat, a variety of wildlife.

20

(E) **Need to Manage for the Endangered Red-cockaded Woodpecker.** This endangered species finds its primary recovery lands in the National Forests of the Southeast. Its requirements are comparable to those for developing good lumber pines. Thus, a significant portion of the forests, if they are converted to pine monocultures, should be managed for this endangered species. In this connection, the Red-cockaded requires mature pines (nesting sites in Loblollies are usually in trees 70-90 years old and rarely in those 30-40 years or less), and the species needs for nesting and foraging an average of 200 acres/clan of such pines in a park-like open stand of not more than 50-80 square feet of basal area per acre. The 125 acres/clan in the present recovery plan is inadequate because it is based on optimum quality habitat found in the Francis Marion National Forest in South Carolina, which is not necessarily available elsewhere. The present management has resulted in loss of many colonies in Appalachia and driven the species to selected refuges in the Coastal Plain. Studies have also shown that high pine densities, such as basal areas of 150 square feet/acre or more, are conducive to pine beetle infestation. Thus, the same management practices that favor the woodpecker would develop more healthy trees that would be more resistant to disease.

- 19 The issue of management of insect infestations is outside the scope of the vegetation management EIS. However, mitigation measure number 18 on page II-50 of the Draft EIS does provide for the management, protection, and/or promotion of a variety of overstory and understory species when wildlife or timber stand improvement, and site preparation projects are conducted. Additionally, mitigation measure number 3, under site specific analysis, on page II-46 of the Draft EIS requires that Integrated Pest Management (IPM) principles be incorporated into project site-specific analysis.
- 20 Pine stands are managed for the red-cockaded woodpecker under guidelines established by the Species Recovery Plan and Forest Service Handbook 2609.23R, developed in cooperation with the U. S. Fish and Wildlife Service.

21

(F) Preservation of Bottomland Hardwoods. Your EIS indicates your appreciation for the need for their preservation, and we appreciate very much the Forest Service efforts in Alabama to maintain all forest bottomlands in hardwood. We should mention, in commenting on this broad DEIS, that herbicides should rarely be used on bottomland hardwoods because of the likelihood of flow or seepage into watercourses. In addition, that habitat is recognized as one of the Nation's most productive yet most rapidly disappearing habitat types, especially in the Southeast. However, past vegetation management has encroached on them too much. Thus, we need management, especially in Appalachia, to increase bottomland hardwoods in order to maintain water quality, recharge groundwater (which is becoming more and more of a pressing problem), and restore the original habitat diversity of the Appalachian National Forests.

22

As to the matter of sensitive plants and animals discussed in Appendix D, we note some references to Alabama, but there are a good number of sensitive plants and animals in the National Forests in this state that are not mentioned as such in that appendix. As to vertebrates, please consult Vertebrate Animals of Alabama in Need of Special Attention, edited by Dr. Robert H. Mount, available from the Ala. Agricultural Extension Service at Auburn or the Alabama State Department of Conservation, and as to plants, please check the recognized books on Southeastern wildflowers that will show that certain plants listed in that appendix are also found in Alabama. If you wish us to give you such lists, we shall be glad to do so; but, unfortunately, length and time and constraints on submitting this letter do not permit our inclusion of them now. We shall be glad, however, to send you a supplemental letter if so desired.

We shall appreciate very much your review and consideration of the above comments. While we recognize that they are somewhat lengthy, that was necessitated by the fact that the draft EIS, with appendix, is itself a rather lengthy document. Because aerial application of herbicides poses so many problems and has or had been suspended by the Chief of the Forest Service, we are sending a copy of this letter to him; and, particularly because Alternative E poses the advantage of increased employment of unemployed and underemployed people in Alabama, we are sending copies to our senators and some of the representatives in whose districts parts or all of the National Forests covered by this EIS lie.

This letter is submitted in behalf of three organizations -- Birmingham Audubon Society, The Alabama Conservancy, and Alabama Ornithological Society -- whose members reside throughout Alabama and surrounding states and who are concerned with the preservation of our natural resources. They represent an aggregate of approximately 18,000 individuals (the figure in our Coastal Plain response was in error), many of whom reside in the Appalachian Region, so when appraising their views expressed in this letter, please give due weight to the fact that it is not written in behalf of a single person. Your consideration will be greatly appreciated.

Sincerely yours,



Robert R. Reid, Jr., for Birmingham
Audubon Society, The Alabama Conservancy,
and the Alabama Ornithological Society

RRR:bjk

cc: Chief, U. S. Forest Service
Hon. Howell T. Heflin
Hon. Richard C. Shelby
Hon. Tom Bevill

Hon. Ronnie G. Filipo
Pres. & Cons. Chmn., BAS
Exec. Director, Ala. Conservancy
President, AOS

21 Forest Land and Resource Management Plans prescribe that bottomland hardwoods will be retained and not converted to another forest type. But vegetation management, including selective (target-specific) herbicide use, may be needed for purposes such as wildlife or timber stand improvement. Mitigation measures (Draft EIS, pages II-64-65) require buffers along lakes, streams, and wetlands; only aquatic-labeled herbicides may be used within buffers, and then only when a site-specific analysis shows a definite need for them. Mitigation measures (Draft EIS, page II-58) also require low application rates, which are reduced another 40-70 percent by selective treatment. These constraints will prevent pollution of surface or ground water by herbicides (EIS section IV.G.1).

22 We have updated the lists in appendix F. They reflect the most current status of threatened, endangered, and proposed species as designated by the U. S. Fish and Wildlife Service in the Federal Register which are known to occur on national forest lands in Alabama. Species known to occur on national forest lands in Alabama which are identified by the Forest Service as sensitive also are shown in appendix F of the Final EIS. As the National Forests in Alabama updates their list of sensitive species based on coordination with the State Heritage agency, this appendix will be updated.

X A T
 Returning Buffalo Medicine Society
 P.O. Box 381
 Birmingham, AL 35201
 February 14, 1989

USDA Forest Service
 1720 Peachtree Road
 Atlanta, GA 30367

USDA Forest Service:

In response to the Draft Environmental Impact Statement, Vegetation Management in the Appalachian Mountains, we have these comments:

We feel the Scientific Analysis is inadequate for the following reasons:

1. It does not have complete data available for one or more of the 14 herbicides and additives considered in the studies presented in Volume II of the DEIS:

- Dermal toxicology studies
- Elimination Rates
- Summary of Mutagenicity and Oncogenicity of pesticides
- Technical grade and formulation acute oral LD50 values for rats
- Degradation rates (K) for herbicides on vegetation
- Maximum exposures for each herbicide used in brown-and-burn applications
- Fraction of initial herbicide residues remaining in water at weekly intervals
- Risk analyses for accidents.

2. There is insufficient data about the occurrence of herbicide residues in surface and/or ground water in the southern region for these herbicides and additives: 2,4-DP, Dicamba, Fosamine, Glyphosate, Light Fuel Oil, and Tebuthiuron. We do not feel tests for herbicide residues in surface and/or ground waters performed in other regions can adequately demonstrate what occurs in the South.

3. There are no studies documenting the long-term (at least 50 years) effect of herbicide use on an entire southern forest ecosystem and surrounding areas.

We support Alternative A which provides for NO use of herbicides and additives, and allows existing vegetation to grow without manipulation because:

1. The herbicides and additives considered in the DEIS have each been shown to have one or more of these qualities for human, animal, and plant life: Toxicity, maternal toxicity, fetotoxicity, teratogenicity, oncogenicity, mutagenicity, and carcinogenicity.

2. The use of mitigating measures such as timing, method of application, protective clothing, dilution, etc., to prevent herbicide exposure and drift cannot be adequate in every circumstance to protect human, animal, and plant life, soil composition, water and air quality. Human error, human negligence, accidents, unpredictable and/or serious weather disturbances, and natural disaster are potential realities. Any one of these events could result in a large herbicide spill which could not be resolved by human intervention or by natural neutralization of herbicide toxins.

To quote the summary - "Alternative A poses the lowest overall risk to human health and safety because no tools are used and risks are limited to wildfires." According to the DEIS, adequate multiple use of our National Forests can be maintained with Alternative A.

Therefore,

The use of herbicides and additives is unnecessary and dangerous. We support Alternative A.

Response to Comments in Letter No. 492

From: Returning Buffalo Medicine Society

Comment No.

Response

- 1 Data gaps are identified within the Risk Assessment and the Draft EIS. 40 CFR 1502.22 outlines a process to deal with missing or incomplete data. We have followed that process.

Beyond the minimum requirements, we have done and solicited extensive review of the Risk Assessment which included a variety of disciplines. Unfortunately, during printing of the manuscript, headings were inadvertently left off the information presented in chapter V beginning on page V-9. This page should be headed "D. Advisors, Consultants, and Reviewers." "1. Advisors" should subhead the list beginning with Stanford Adams; "2. Risk Assessment Review" begins with Joanne Betso; and, "3. Technical Consultants and Review" (of the EIS) begins with Richard Ames and continues on page V-10. In addition, EPA, CDC, the Fish and Wildlife Service, and many other Federal and State conservation agencies have reviewed this Draft and commented.
- 2 Movement of these six chemicals to surface or ground water has not been studied in southern forests. However, modeling was done in the Risk Assessment (Draft EIS volume II, appendix A, pages 4-24 to 4-44) to assess potential leaching to ground water under conditions most conducive to leaching. In addition, movement of our three potentially most mobile herbicides (2,4-D, picloram, hexazinone), as well as others, to surface and ground water has been studied quite thoroughly.

Potential herbicide movement depends on characteristics of mobility (a function of water solubility and adsorption tendency) and persistence (a function of degradation modes and rates). Of the six chemicals you mention, only dicamba and tebuthiuron indicate even a moderate seepage potential; the other four exhibit combinations of low solubility, high adsorption, and/or rapid degradation and so have minimal to low movement potential (Draft EIS volume II, appendix C, table 1). All of the six chemicals have many times less movement potential than 2,4-D, picloram, and hexazinone which have been studied. Therefore, none of our evaluated herbicides should exceed concentrations of 0.050 ppm in buffered streams or 0.025 ppm in even shallow ground water when applied at the low rates and frequencies we require (Draft EIS pages II-9, II-58, and IV-98 to IV-106). We nonetheless recognize the need for more research in this area (Draft EIS page IV-151).
- 3 We agree. Herbicide use in rights-of-way is documented for 23 years, but this is the longest study time frame we have found.
- 4 Your preference for alternative A was included in the content analysis of all comments received. Also please response to comments in Letter No. 266.

I support Alternative A and have read and
approve of the attached letter.

Eleanor Long 5323-10th Ave So. Birmingham 35222

Alice McCombs 4321 5th Ave S Birmingham, AL 35222

Connie Meador 5705-13th Ave So. Birmingham, AL 35222

Cheryl Chandler Rt. 9 Box 749 Albertville, AL 35950

Harvey McCombs 4321-5TH AVE SO. PHAM AL 35222

Lula McWright 3003 13th Ave. S. #2 Bham AL 35205

Karen L. Wolfe Rt. 9, Box 747 Albertville, AL 35950

Paul R. Galt 1941 Crossvine Rd. Hoover, AL 35244

Karels Sparks 4635 Montclair Rd. Thruway 35213

Margaret McKown 8 Roebuck Dr. Bham AL 35215

NELDA BARNETTE 1300 Beacon Pkwy E GUY 35201

Joseph Cull Rt 5 BX 1320 Clinton, AL 35045

All Members of the Refusing Buffalo Antibody Society
P.O. Box 381
Birmingham, AL 35201

- 5 Herbicides and all other chemicals whether synthetic or natural can cause toxicity or maternal toxicity at some level. However, LD₅₀ and LC₅₀ values for all of the class A herbicides are "very slightly toxic" or "slightly toxic," the lowest toxicity classes assigned by EPA. Specific other problems are relatively uncommon. Specific cases are noted where ambiguous test results are recorded but class A chemicals do not show these concerns.
- 6 We disagree. Within the constraints of mitigations presented in chapter II, the probability of a significant spill occurring in a project is extremely low.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

Note → However you decide to respond, please help us by making specific and meaningful comments. ^{Right!}
 Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?
 No ² No ²

Comments on Scientific Analysis:

As usual, slanted, biased and inadequate as well myopic (short-sighted!)
 Why? →

Why? → because the US Forest Service and most of its employees are solely concerned with providing the commercial timber and paper industry with "below cost" lumber at the tax payers expense; regardless of the environmental impact on the forest.

Comments on Alternatives:

1

Alternative F is preferable; though unend to the clear-cutting.
 Why? → is the only real alternative.
 Because you probably haven't heard (being such concerned and

2

OTHER: informed environmentalists and naturalists) that chemical herbicides are highly toxic and do not dissipate after desired results, but continue to poison and pollute the surrounding flora, fauna, and inevitably, groundwaters and aquifers. Wake up folks! (ever heard of hucardus' waste (herbicides)?)
 (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Donald J. Debona (US Tax payer)

Name: First MI Last (Organization)

Rt 3 Box 541

Street

Rutherfordton NC 28139

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 493

From: Donald J. DeBona

Comment No.

Response

- 1 Your preference for alternative F was included in the content analysis of all comments received. Also see response to comments in Letter No. 522, Comment No. 1.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

- 2 The scientific analysis presented in this Draft EIS, chapter IV, does not agree with commenter's conclusions drawn when incorporating mitigation measures (pages II-44 through II-66 in the Draft EIS).

Tear at perforation

RESPONSE FORM

2/14/89

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I strongly urge the use of the following order of preference for vegetation management in our Appalachian Mts.:

1. Manual & animal-grazing wherever possible
2. Mechanical, on an environmentally sound and carefully selective basis
3. Prescribed fire where advisable and under carefully controlled conditions
4. Herbicides only where absolutely necessary (i.e. in inaccessible terrain) and under carefully controlled & limiting conditions

Comments on Alternatives:

(I understand this is basically what the public opinion survey of mid-1987 indicated the public wants.)

Why?

1. for protection of our priceless environment for people, animals and birds

Other:

2. I believe such a policy, well-implemented by our Forest Service experts, would also create many semi-skilled jobs for the mountain areas, where unemployment & under-employment is such a serious and growing problem.

Why?

Samantha T. Bent

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

SAMANTHA T. BENT

Name: First MI Last (Organization)

34 BIDWELL STREET

State:

FRANKLIN NC

28734

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 424

From: Samantha T. Bent

Comment No.

Response

- 1 Your preferred order of tool use was included in the content analysis of all comments received. A description of tools used for various activities and associated strategies has been added to chapter I of the Final EIS.
- 2 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS.
- 3 See response to comments in Letter No. 22, Comment No. 1; and Letter No. 57, Comment No. 3.

Tear at perforation

RESPONSE FORM

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However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?**Comments on Scientific Analysis:**

The Appalachian Mountain Forests involve a wide variety of conditions, vegetation, economic benefits and public interests. Water and soil are basic resources and due to sensitivity should share priority attention in on-site analysis and prescription for management.

Why?

The EIS statement has developed scientific conditions and situations to adequately cover management of the 5.2 million acres of N.F.

Comments on Alternatives:

The eight alternatives - from A (no action) to H (achieve maximum vegetation control) - adequately cover a wide range of vegetation management methods/tools. To achieve balanced management a variety of treatments should be considered with use and intensities determined by specific site analysis.

Why?

alternative D - listed Preferred - appears to cover desired treatments with substantial reduction in mechanical and manual methods. The provisions should provide sufficient control for field application.

Other:

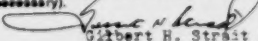
GENERAL

I wish to take this opportunity to commend the Preparers of this EIS and supporting data on a job well-done. This EIS is a most comprehensive and scientific report.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).


 Gilbert H. Strait Individual

 Name: First MI Last (Organization)
 Rt. 1, Box 4440

 Street:
 Lufkin, Texas 75901
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 495

From: Gilbert H. Stradt

Comment No.

Response

- 1 We agree. Mitigation number 1 on Draft EIS page II-44 requires site-specific analysis.
- 2 Your preference for alternative D was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: You should have assumed that herbicides will be applied as specified. I have seen herbicides improperly applied in agriculture and public property maintenance. Grasshoppers are nice but very noisy often isolated during application. As Forest Service employees are human I know they will not always adhere to your guidelines.

Comments on Alternatives: I prefer alternative B because I think the National Forests should be managed for primitive visual + recreational use. B allows you to manage vegetation but retains the natural flow of the Why? Forest. I also prefer the use of low impact techniques thereby reducing air + water pollution and erosion.

Other: I oppose alternative D because of the large increase in herbicide use. All other techniques at least utilize a natural events, herbicides don't. They also pose a great threat Why? to non-target species particularly in runoff and streams. I oppose aerial application of herbicide because it is subject to severe misapplication.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Dana Eglinton
Name First MI Last (Organizational)
R45 Box 416
Street
Bristol TN 37620
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 496

From: Dana Eglinton

Comment No.

Response

1 The commenter's preference for alternative B was included in the content analysis of all comments received. Alternative B does have some of the favorable effects listed. It also has effects considered unfavorable by other commenters. Pages II-76 through II-83 of the Draft EIS summarizes the positive and negative effects of alternative B. More detailed summaries of impacts of each alternative begin on page IV-130 of the Draft EIS.

2 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

Mitigation measure required for each method including herbicides on pages II-46 through II-66 in the Draft EIS are designed to minimize risks to non-target species and streams. Please see response to comments in Letter No. 522b.

← Tear at perforation

DRAFT ENVIRONMENTAL IMPACT STATEMENT
VEGETATION MANAGEMENT IN THE APPALACHIAN MTS.
RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.

Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

The section pertaining to herbicide research seems to be inadequate. Other areas such as water, soil, wildlife and short-time human health are studied sufficiently.

Why?

There are serious gaps in considering the long-term effects of herbicides.

Comments on Alternatives:

Alternative "F" should be implemented by the Forest Service

Why?

Alternative "F" uses no herbicides and as an alternative manual techniques and fire (controlled burns) are emphasized. Alternative "F" also provides for an optimal number of new jobs created to do the work. Alternative "F" provides for an increase of berry production for wildlife and human recreation.

Other:

Specific areas of study should be done with reptiles, birds, and amphibians before any vegetation management plan is employed.

Why?

Biological diversity should not be reduced.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name First MI Last (Organization)
1240 Earl Roberts Road

Street
Anniston, AL 36201

City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 497

From: William Peter Conroy

Comment No.

Response

1 Where available, long-term field data were used; where unavailable, modeling was done. "Data gaps" are discussed in detail in several places in chapter IV of the Draft EIS (pages IV-9-11, IV-68-69, IV-91, IV-115, IV-150) and in both appendices A and C.

2 Your preference for alternative F was included in the content analysis of all comments received. Also please see response to comments in Letter No. 522, Comment No. 1.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

January 10, 1989

Comments on Scientific Analysis. The two volumes contain an incredible amount of important data and technical information. Interpretation of these data and categorization into an "Order of Preference" are especially noteworthy; however preferred method "D" does not appear to correlate with the "Order."

I have been working with the USFWS Agency for Toxic Substances and Disease Registry, and I find that many of the criticisms leveled at the usage of chemicals by the Forest Service can be countered with education and dissemination of recent data accumulated from careful applications. I still agree that this should be last in an "Order of Preference."

COMMENTS ON ALTERNATIVES: I believe that a simplistic solution to management, as proposed by your 8 alternatives, will not prove to be the best approach to this problem from the standpoint of public criticism and the best application of research knowledge. Indeed, I should like to see each part of the forest managed by establishing appropriate goals (your PURPOSE AND NEED) for the area

1 and consideration of the most appropriate methods for achieving this condition. The figures should be a result rather than a guideline.

This approach should assuage such criticism when supported by relevant data.

2 I believe that a knowledgeable physician should be added to your panel to help critique human data, etc.

3 ~~summary~~ I would modify your "Preference Alternative" to cover about 20% annually (106,000 acres) and utilize Manual-40, Mechanical - 44-47,

Prescribed Fire-5, Herbicide-5 to 10 and Biological -1.

This would appear to be more effective and environmentally pleasing.

Return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

JOHN M. BROWN, M.D.
 Name First MI Last (Organization)
 J.M. BETTY ST
 Street
 DILLARD, GA 30537
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 428

From: Dr. John M. Brown

Comment No.

Response

- 1 This is an umbrella or programmatic document. Each forest has or is currently completing a Forest Land and Resource Management Plan. This EIS and the Forests' land management plans will be used when preparing site-specific analyses as required in mitigation number 1 on Draft EIS page II-44. They will guide the process when working on specific projects. Please see Implementation section, pages I-3 and I-4, of the Draft EIS.
- 2 Several toxicologists were reviewers of this document. Please see chapter V for their inclusion.
- 3 We considered this alternative. Please see response to comments in Letter No. 474, Comment No. 4. The important factor that drives the mix of methods used is the site-specific analysis required for individual projects (page II-44 of the Draft EIS) along with biological evaluation and incorporation of IPM strategies (page II-46 of the Draft EIS).

Please see response to comments in Letter No. 166, Comment No. 3.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However, if you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1

THERE IS AN UNACCEPTABLE AMOUNT OF
UNKNOWN & UNCERTAINTIES IN THE DATA SUPPORTING
WIDE SPREAD USE OF PESTICIDE AND/OR HERBICIDES

Why?

Comments on Alternatives:

2

THE PREFERRED ALTERNATIVE IS JUST ABOUT THE
THE OPPOSITE OF THE PUBLICS EXPRESSED PREFERENCE

3

Why?

FIRES THAT HAVE ESCAPED CONTROL HAVE CAUSED A LOT
OF DAMAGE TO PRIVATE WOODLANDS IN THIS AREATHE MAJORITY OF PEOPLE HERE WISH TO MINIMIZE THE USE
OF HERBICIDES & FIRE - WITH THE GOAL OF THE WORK BEING
DONE BY MANUAL & MECHANICAL MEANS. THE POWER COMPANIES
DO IT THAT WAY NOW, AND CAN AS

Other:

4

Why?

I AM CONCERNED ABOUT THE TOXICITY OF THIS SPRAY
PROGRAM AFFECTING THE BEEKEEPERS IN THIS AREA

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

RICHARD HEYWOOD

Name: First MI Last (Organization)

395 MIDDLE CREEK RD

Street

OTTO NC 28763

City

State

Zip Code

Tear at perforation

From: Richard Heywood

Comment No.

Response

1 Risk Assessment has been used to project risk to humans and wildlife where available data was missing or unavailable. This is a scientifically acceptable process which conforms to CEQ Regulations, 40 CFR 1502.22. The analysis consistently used conservative assumptions that deliberately overestimated potential adverse effects of herbicides to account for gaps in our data.

2 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

3 Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be mowed or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. These measures also ensure that escaped prescribed fires and their effects will be minimal.

Throughout the wildlife section of appendix A, bees are cited as an invertebrate species specifically because of the concern you express. Much data does exist for bees since they are maintained for honey production in many areas. All 11 herbicides evaluated were of low toxicity to honeybees. Three additives (diesel oil, kerosene, and limonene) have insecticidal properties when sprayed as contact poisons on insects. However, our use pattern minimizes the contact poison potential, especially since herbicide treatments in the general forest area must be 90-100 percent selective (Final EIS page II-11) and mitigation measures will hold drift to a minimum (section IV.G.1).

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

720. I do not think that you have done a complete scientific analysis. It takes years and years of study and experiment before you can come up with proof. Why? It seems to me in order, to meet one's own goals, the consequences of actions are used, i.e., manufacture of herbicides & pesticides. This is not scientific study.

1

Comments on Alternatives:

720. The Alternatives do not respond to my concerns.

2

Why? It seems as if the regard to animal and plant life have not been scientifically studied and proved. It has not taken into consideration that most herbicides and pesticides are not biodegradable. Other: and poisons are sent 100 years from now. This is not your concern or is it. Proof.

Why? The birds of the Wild Kingdom are fast becoming extinct. You hardly ever see a cardinal any more. Blue birds? Very sensitive creatures. Squirrels? Fast becoming extinct. Rabbits, the same. Please do more scientific study.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Crickitt Katherine Hammond

Name: First MI Last (Organization)

Private Citizen

Street

Box 708 Jackson, MS 39209

City

State

Zip Code

A703-997-0075

Tear at perforation

Response to Comments in Letter No. 500

From: Crickett Katherine Hammond

Comment No.

Response

- 1 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Please review data presented in the Risk Assessment (appendix A, chapter 4) and in chapter IV of the Draft EIS which show none of the herbicides permitted for use under required mitigations (pages II-44 to II-65 of the Draft EIS) to have a half-life of greater than 65 days. Thus, the herbicides planned for use will be virtually degraded within one year.

Tear at perforation

RESPONSE FORM

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Comments on Scientific Analysis:

I think you have obviously worked hard to present alternatives that vary the total management and the individual components. However, I would like to have seen ~~a~~ plans intermediate between treating 0, 50,000, and 130,000 acres. Also, ~~why~~ no plan included the 9,000 acres per year designated for cutting (in the Pisgah NF and Pisgah National Forest).

Comments on Alternatives: I prefer alternative B.

Why? I prefer a plan which has minimum herbicide treatment - none of which is applied by air. Since the total amount of acres treated is relatively low, there is less sediment - i.e. less loss of topsoil and less pollution for streams.

Other:

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

J. Allen L. Jones Moss Hill College
 Name: First MI Last (Organization)

Street Moss Hill NC 28754
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 501

From: JoAnn T. Croom

Comment No.

Response

- 1 The document is programmatic in nature covering all of the Southern Appalachian Forests. Please see chapter I analyzing a broad range of program sizes. While many more intermediate alternatives could have been analyzed, we determined that the selected B alternatives gave a reasonable and adequate analysis of effects. The effects of referenced 9,000 acres would be addressed in the Land and Resource Management Plan for the Pisgah and Nantahala National Forests.
- 2 Your preference for alternative B and also for minimal use of herbicides and no aerial application have been included in the content analysis of all comments received. Please see response to comments in Letter No. 261, Comment No. 1.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

← Tear at perforation

DRAFT ENVIRONMENTAL IMPACT STATEMENT
VEGETATION MANAGEMENT IN THE APPALACHIAN MTS.
RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

1

Alternative F - NO HERBACIDES - is the alternative I would prefer be used.

2

Why? The long term effects are not adequately known & I choose to err on the side of conservative & no ^{fire} ~~long~~. It seems that concern for worker injury from chainsaws etc. is legitimate at first glance; however I already suspect that long term effects Other: from herbicide exposure, may prove to be far more serious & expensive. In addition I do not want myself or my family in areas that have been treated.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Catherine C. Tucker - mother of 3
Name: First MI Last (Organization) Childcare
165 Victoria Dr.
Street
Anniston Al 36201
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 502

From: Catherine C. Dickson

Comment No.

Response

1 Your preference for alternative F was included in the content analysis of all comments received as has your concern for unknown potential herbicide effects. Also please see response to comments in Letter No. 522, Comment No. 1.

2 Based on the information disclosed in this EIS, the rate of environmental degradation of the herbicides evaluated is very rapid. Long term persistence is not expected when these herbicides are used according to the mitigation measures required in chapter II, pages II-58 to II-65 of the Draft EIS.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

National forests were established for the preservation of natural environments. Management practices should be developed that protect the wild resources within forest borders.

1 Vegetation management if not properly conducted can come dangerously close to ecological manipulation. Any management beyond that which is necessary to preserve fauna and flora as it exists is risky and runs counter to the original intent of those laws established for National Forest protection. Enacted practices should be a balance of environmental protectionism and safety measures for people and wildlife.

The Forest Service prefers the practices outlined under alternative D in accordance with the environmental impact statement. These practices are too manipulative of forest lands. Suggested procedures are potentially damaging and may discourage the natural succession of ecosystems.

2 Alternative D is not cost effective as written. It involves too much money being allocated incorrectly on too much acreage. The allocation of large amounts of money toward commercial pine and hardwood stands is unrealistic based on current and estimated future timber markets. Treating pine and hardwood stands with a crop mentality should not be the business of the Forest Service. The current practice of clear cutting by the Forest Service has led to violations of watershed protection acts. The harvesting of commercial timber ought to be left to private companies on private lands.

3 The recommended uses of herbicides for Alternative D are widespread and consequently unpredictable. The manipulation of the environment through chemical applications is dangerous no matter what precautions are taken. The EIS contains risk assessments based on labeled application dosages and procedures. It makes no effort to assess risk of human error. This is an assumption that is very unrealistic. Human errors occur on a consistent basis, particularly during field work.

4 There are no descriptions for procedures to address spills, contaminations, or any worst case scenarios. Despite all accumulated data found in the EIS appendix, the study is lacking in essential safety data.

Response to Comments in Letter No. 503

From: Paul M. Richards

Comment No.

Response

- 1 Much of the original aim or philosophy behind management of national forests is contained in the Organic Administration Act of 1897 (30 Stat. 34, as supplemented and amended; 16 USC 473-478, 479-482, 551). Many uses are described in that Act, just a few of which are forest protection, securing favorable conditions of water flows, furnishing a continuous supply of timber, mining and road construction. A more contemporary statement of purpose is found in the Multiple-Use, Sustained Yield Act of 1960 (74 Stat. 215, as amended; 16 USC 528-531). This Act requires that national forests be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. Preservation is an important part of the objectives of management, but is not the purpose for national forests.
- 2 Although the commenter might prefer a different allocation of resources, under alternative D goods and services are produced in a cost-effective manner. The issues of timber harvest allocation and method are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest.
- 3 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. Note also, the assessment of accidents discusses the potential environmental and health impacts from human error.

Commenter's statement "...risk assessment based on labelled rates..." is a misrepresentation of data presented in the EIS. "Typical," "maximum," and "accident" rates were evaluated as described in chapter 4 of the Risk Assessment (appendix A, pages 4-2 through 4-15) and chapter IV of the Draft EIS (pages IV-5 through IV-6).

Neither typical nor maximum rate approach label rates. An example -- the highest typical and maximum rates for picloram use (table 4-6, page 4-4, appendix A) are 0.7 # ai/ac (mechanical foliar application) and 1.5 # ai/ac (aerial foliar) while the label permits up to 40 # ai/ac for specified applications. Typical rates are required by mitigation number 5 (page II-58, Draft EIS) and the heaviest (0.7 as above) is only 1.75% of label! The accident scenario presents a situation where environmental concentration (or burden) far exceeds the label maximum rate. Disclosure of potential effects of accidental spill are presented clearly and realistically.

Aerial spraying is too uncontrollable and indiscriminate to be a part of any management program. Minimum standards for wind speeds of five miles per hour are questionable. Wind variances can occur within targeted spray areas that cannot be determined during aerial operation. Utility corridors such as those proposed for treatment, create wind channels that can increase local windspeeds to hazardous levels for aerial chemical application. Temperature fluctuations between open, exposed utility corridors and forested adjacent lands can cause hazardous conditions for drift through heat produced updrafts. Manual methods should therefore be used if any chemical applications must occur.

5

Based on the information offered within the EIS, Alternative B is best suited for vegetation management of National Forests. It is the most cost efficient and least environmentally damaging of any of the "hands-on" alternatives. Minimum management practices allow the lands to remain natural and wild as they were originally intended to be. Forest Service management practices must return to tactics of preservation not manipulation.

6

Paul W. Richards

Paul W. Richards
50 Bluff Drive
Savannah, GA 31406

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 4 Accident scenarios are discussed and where data are lacking we have complied with 40 CFR 1502.22; Draft EIS page IV-7, IV-9. Please see response to comments in Letter No. 480, Comment No. 3, for discussion on data gaps.
- 5 Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS). Wind drift and other factors are analyzed and discussed in chapter 4 of appendix A of the Draft EIS.
- 6 Your preference for alternative B was included in the content analysis of all comments received. Also see response to comments in Letter No. 261, Comment No. 2.

Tear at perforation

RESPONSE FORM

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Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1

more accessible less overwhelming
info packet for laypeople would be possibly more cost effective
and certainly more useful than what I got from it I like
Why? Plan B.

Because I want decreased use of ~~the~~ Herbicides & generally
less disturbance. As a long term goal I intend to
work for the phasing out of all Herbicide use.

Comments on Alternatives:

2

Don't want plan C or any other plan that
increases herbicide use.

Why?

The jury is still out on the long term effects
of many herbicides & I fear that we are
polluting our world. Almost to the point of no
return.

Why?

(use additional sheets as necessary)

return this comment sheet, fold and staple with USDA Forest Service address ☐ and
in the mail ☐ postage necessary).

Patrick O Battle
Name: First MI Last (Organization)
3937 Hwy 80 So. Buena Vista
Street
NC 28714
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 504

From: Patryk B. Battle

Comment No.

Response

1 The interdisciplinary team views its writing assignment as equal in importance to the analysis. Good communications is a top priority. While many reviewers commented that this very complex technical subject has been handled very well, some may still find it overly complex. The summaries on pages iii through xvi of the Draft EIS attempt to address this problem. Your preference for alternative B was included in the content analysis of all comments received.

2 Your opposition to the increased use of herbicides was included in the content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

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However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?**Comments on Scientific Analysis:**

2/15/89

Why?

Dear Forest Service Policy Makers,

I want to let you know that I have been doing research on the pollutions which many seem to think are contributing to the stresses of the trees, particularly the conifers on Mount Mitchell and elsewhere in our area of the Appalachians.

Comments on Alternatives:

I am requesting that for the time of your proposed plan that you choose plan B, which means that you would basically continue to manage the forests as you have, but increasing labor and decreasing the use of herbicides and that you, in order to maintain a budget, manage fewer acres in this manner.

Why?

I am very concerned with the risks to forest, and human life itself in light of the seeming combined effects of environmental damage, both via the atmosphere (which we cannot directly control) but also via herbicide (and other pesticide) use and clearcutting. I have read references to studies which indicate that nutrients to the trees are being lost either because as the soil acidifies even just a small amount it cannot support the microorganisms which enable the trees to take the nutrients in or because the acidification allows aluminum to enter the trees, poisoning them or because forestry practices rob the forest ecosystem of the essential amount of plant decay which would replenish needed nutrients.

Other:

Why?

Some

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address [] and drop in the mail [] postage necessary).

Diane P. Nettles

Name First MI Last (Organization)

3937 Hwy 80 S

Street

Burnsville NC 28714

City State Zip Code

Tear at perforation

Response to Comments in Letter No. 505

From: Diane P. Nettles

Comment No.

Response

- 1 While your preference for alternative B was included in the content analysis of all comments received, please note that alternative C continues the current program while B severely restricts it. Please see response to comments in Letter No. 261, Comment No. 2.
- 2 Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Please note, the issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest.

- 3 Herbicide use does not cause soil acidification nor do herbicides normally have significant impact on soil-borne microorganisms when applied at the proposed typical rates. See page IV-96 and appendix C (page C-10) of the Draft EIS. The processes involved in and affected by "acid rain" are beyond the scope of this EIS. For more about herbicides and soil microorganisms, see response to comments in Letter No. 383, Comment No. 2.

p2

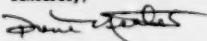
Personally we grow as much of our own vegetables as we can and will soon be planting fruit trees and berries. If we knew how to grow and harvest and process grains we would. We need our soil and water to remain pure. We are educating ourselves as best we know how about our community including its forests in order to figure out how to encourage others to consider the picture facing not only our but our children's and grandchildren's health and happiness. I have spent some time in the Asheville office with Dr. Thomas who has tried to give me publications in the areas I've mentioned. He has also suggested people connected with the USFS who might be able to give us more information. I have found him to be very helpful and feel he is a good representative for the USFS because of his helpfulness, respect for lay people and his integrity as a scientist. I do not know what else he could do.

4

I urge the USFS to, even in our local area, read outside the bare facts of this year's research, or last year's in terms of possible effects of your actions several years down the line. Perhaps it is time the Forest Service make issues ~~and~~ "out of your jurisdiction" your business. If the USFS is currently putting pressure on Congress to deal with acid rain, auto emissions, etc. I would appreciate a note and reference to this effect so I may enquire further. There are people who have lived in these mountains far longer than I who are concerned about the increasing number of bald spots, the ill-health of the ridgetop conifers and who make or have made their livelihoods in the forests. My opinion is that much protective interpretation of research findings and sheer physical evidence is needed and USFS action be taken accordingly.

Thank you for your time and attention.
We surely are lucky to live in a country whose resources are so vast and that so many of them are managed with the concerns of its people taken seriously.

Sincerely,



Diana Nettles

- 4 Several Forest Service research projects are currently attempting to further our understanding of the problems of air pollution and acid rain as they affect forest composition and growth. For more detailed information you might start with inquiries to the Southeastern Forest Experiment Station in Asheville, North Carolina (P.O. Box 2680, Zip 28802).

130 Pearson Dr.
 Marganton NC
 Feb. 16, 1989

VMT

Room 3625
 1730 Peachtree Rd. NW
 Atlanta, Ga 30367

Sirs =

I wish to strongly protest
 the use of herbicides in
 our National Forests -
 Also Clear Cutting -

I am for human
control only! -

Yours truly,
 Mrs. Eloise Hinderford

Response to Comments in Letter No. 506

From: Mrs. Eloise Sanderford

Comment No.

Response

- 1 Your opposition to herbicide use and support of manual methods have been included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

Manual treatments are very effective for some situations but have limitations for others. Please see page IV-62 in the Draft EIS. Manual treatments also have a very high risk of both minor and serious injury. Please see pages IV-26 through IV-31 in the Draft EIS. We have added a section in the Final EIS that clarifies relationship of tools to various activities.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

JOHN R. SWANSON
P. O. Box 6554
Minneapolis, Minn. 55406

13 February 1989

USFS Forest Service
720 Peachtree Road, N.W.
Atlanta, Georgia 30362

Dear Sirs,

Please accept my comments as follows concerning
Vegetation Management in the Appalachian Mountains,
Draft Environmental Impact Statement.

I am acquainted with the National Forest System Unit located in the
Appalachian Mountains of the USFS Forest Service Southern Division
and conclude that each National Forest area contains outstanding
wilderness, wildlife-biological, cultural and scenic resources of certain
National significance.

With these Forest Service units providing vital refuge for flora and fauna, birds
and other wildlife, I oppose the proposed timber harvest as to vegetation
management, as this activity will actually destroy the significant portions
of the Appalachian Mountains, Forest Service, Southern Division
which preserve other natural wildlife, not only but also wildlife fish
and water air visual quality, recreation, cultural and human health resources.

Nothing is destroying the Forest Service areas in question, & although we
are actually, little or better yet, nothing must be considered. And in the worst
case, Forest Service may require that we must be limited to using modern
methods, may.

As we have a mandate to save rather than destroy our National Forest System.

Sincerely,

John R. Swanson

Response to Comments in Letter No. 507

From: John R. Swanson

Comment No.

Response

- 1 Your opposition of alternative D and your support of manual vegetation methods have been included in the content analysis of all comments received. However, please note that commenter's reasons are not supported by the analysis presented in the EIS and support of manual only vegetation management would substantially increase accidents to forest workers. Please see pages IV-26 through IV-31 in the Draft EIS for analyses on accidents and page IV-62 in the Draft EIS for effects of manual treatments.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

VMT, p.2

regeneration methods may require different levels or types of vegetation management. By failing to discuss the connection between silvicultural methods and vegetation management in either EIS, the US Forest Service has failed to adequately assess all potential impacts of its programs on the natural and human environment of the Appalachians. Because the USFS is a federal agency that is responsible for management of 5.2 million acres of public lands in the region, including some of the most diverse temperate forest ecosystems in the world, this is a very serious failure indeed.

We contend that it was premature to complete an EIS that relies on management decisions from another document (the Plan) before appeals of that document have been decided. We are also concerned that citizens currently have no source of information about how vegetation management differs under different silvicultural treatments. Nowhere can a person find an answer to the question "How much (herbicide, fire, mechanical or manual treatments) will be required over the next 30 years if this 40 acres is harvested or regenerated using 1) clearcutting, 2) shelterwood, or 3) group selection?" As an organization that devotes much time to advocating for more selective harvesting, this is an important question for us.

Without an answer to this question, there is no way that "Integrated Pest Management (IPM) principles are incorporated during site-specific analysis" (p. 11-46). By definition, IPM requires the use of cultural [silvicultural] treatments that will minimize or negate the need for pesticides or other pest control treatments. In our opinion and experience (Walton Smith, pers. comm.) selectively harvested forest stands require very little "vegetation management" and no herbicides. Competing vegetation and "undesirable" trees are controlled through the harvesting itself, which is designed to manipulate the light environment, species composition, and tree density to produce the desired stand qualities.

2

2) We have a second general but very critical concern about the Draft EIS: that many of the assumptions which went into assessments of risk to humans, wildlife and ecosystems and which determined the preferred alternative, are heavily dependent on use of mitigation measures. In our opinion and experience, USFS cannot assure that all the required mitigation measures will be carried out over the entire scope of the Forest Plan.

3

The list of mitigation measures specified in the EIS to minimize risks to workers, general public, wildlife, aquatic systems etc. would in all likelihood reduce negative impacts very effectively. This list of mitigation measures is excellent, and very comprehensive. It is also very idealistic. The day-to-day, District-by-District, unit-by-unit realities of life in the Forest Service after budget cuts are very different. The Land and Resource Management Plan also stipulates many mitigation

- 2 IPM requires a full variety of tools be available and used where appropriate. Integrated pest management, or IPM, is a much used and poorly understood concept in forest protection. IPM is defined in Forest Service Handbook Chapter 3409.11 as "A decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." Unfortunately, IPM is often erroneously interpreted as being an alternative to chemical pesticides. Current research on selective harvesting indicates that frequent vegetation management including the use of herbicides is routinely required (Final EIS page IV-59).
- 3 The mitigation measures are required and will be used as a basis for site-specific analysis of vegetation management projects. Individual forests can be more restrictive. They are mandatory, have been exposed to intense public scrutiny, and will be monitored and reviewed to ensure their use and effectiveness.

VMT, p.3

measures to reduce environmental impacts of timber harvest programs. We know from experience that District offices simply do not have the staff, time, or funds to mitigate all activities required to meet current timber goals set by the Plan. We suspect that the mitigation measures required for safe and environmentally sound implementation of the Vegetation Management plan will meet the same fate. We are not assured.

For example, as part of the site-specific analysis, the potential impacts of vegetation management treatments on threatened and endangered species must be determined so that they can be mitigated. The Draft EIS Summary states (p.xi), "Since threatened and endangered plants may be extremely sensitive to herbicides, mitigation measures and biological evaluations are essential for protecting these plants." Such evaluations rely on "available inventories" of such species and their habitats. To date, USFS has itself conducted no systematic surveys for T&E, proposed or sensitive species over all its lands in Nantahala and Pisgah National Forests. Inventories available from other sources (Natural Heritage Program, etc.) are incomplete for many localities and taxa. Despite the fact that the southern Appalachians are a world-renowned center of biological diversity, there is currently not a single botanist or vertebrate taxonomist assigned to the staff of Nantahala-Pisgah NFs. In the day-to-day reality, the only person who makes any kind of site-specific evaluation of an area is the District silviculturist (often in the winter). These persons cannot be expected to recognize T&E species or rare habitats.

3) As a result, the Draft EIS and the Vegetation Management Plan does not adequately or effectively address potential impacts on threatened, endangered, sensitive or proposed species and their habitats.

Similarly, three of the four different vegetation management methods each require a long list of management requirements and mitigation measures for safe and environmentally sound implementation: fire requires 18 different mitigation measures, mechanical methods 11, and herbicides require a total of 34 separate measures. The manual method (chainsaw operation) only requires one management or mitigation requirement.

4) For the above reasons, the process used to determine that herbicide methods posed low risk to the environment and were preferable to manual methods of vegetation management is flawed. Again, we are not convinced that USFS is currently capable of assuring that 34 separate mitigation measures required for safe application of herbicides can be uniformly implemented over the scope of Land and Resource Management Plan. We do not believe it is advisable to increase herbicide use.

5) Reliance on mitigation measures for safe and sound use of prescribed fire also makes this method more risky than we like.

4 We agree that threatened, endangered, proposed, and sensitive species may be sensitive to vegetation management. However, we feel that the effects of these species have been adequately evaluated and mitigated in chapter IV, section E, pages IV-83 to IV-98 of the Draft EIS; appendix F of the Draft EIS (Biological Evaluation of the Effects of the Preferred Alternative on Threatened, Endangered, Proposed, and Sensitive Species); and in mitigation measures 1 and 2 on pages II-44 and II-45 and in the other ones on pages II-44-66 that pertain to plants and wildlife in general. Also, in order to prevent unknowing impacts on these species, regardless of the method or tool proposed for use, mitigation measure number 2 on page II-44 of the Draft EIS specifically states that when adequate population inventory information is unavailable, it will be collected when the affected site has a high potential for occupancy by threatened, endangered, proposed, or sensitive species. Figure D-1 of the Final EIS traces the process required to insure adequate assessment of potential harmful effects. Additionally, although all Forest Service personnel are not trained as botanists or biologists capable of recognizing threatened, endangered, proposed, and sensitive species, they are trained to seek help from appropriate sources such as Forest Service specialists and State Heritage personnel; and on-the-ground plant identification training sessions are conducted through the Regional Botanist.

5 To a large extent, mitigation measures discussed in chapter II represent modifications of existing practices or standardization where differences existed between forests. Manual methods are very appropriate in many cases, and projected use is over 20% of the time. However, in certain cases such as mowing, control of sprouting, and hazardous fuels, they are less efficient and effective.

6 The EIS does not imply that herbicides are inherently preferable to manual methods. For many purposes, it provides more effective plant control (Final EIS section I.B). The mitigation measures are standard operating procedures for herbicide use that are easily understood, applied, enforced, and monitored. The analyses in the EIS and the Risk Assessment used all the available data on herbicide effects and modeled risks using conservative assumptions that deliberately overestimated potential adverse effects. They received rigorous scientific review and have broad support, and we believe their conclusions are sound.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

7 Fire has always been a part of the forest environment and carefully controlled prescribed fire is a primary tool in reducing hazardous fuel buildups and providing critical habitat conditions for fire-dependent wildlife and plant species (see chapter IV of the Draft EIS). Again, these mitigations are standard operating procedures that are easily understood, applied, enforced, and monitored.

VMT, p.4

8 6) Given that "When assessing herbicide effects on wildlife, we face an overwhelming number of species with data gaps and inconsistencies in data" and that "Response varies greatly among species" (p. IV-68), we are further unconvinced that risks to wildlife and endangered species have been adequately addressed. We do not favor an increase in herbicide use.

9 7) Many data gaps are acknowledged which result in uncertainty about human health effects of herbicides (p. IV-9). Although the risk assessment methods used in the Draft EIS were state-of-the-art and comprehensive, they do not in our opinion substitute or compensate for fundamental gaps in knowledge about herbicide safety. We do not favor an increase in herbicide use.

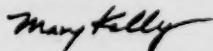
10 8) Our membership and the general public are overwhelmingly concerned about and generally opposed to the use of herbicides in the National Forests. This is evidenced by the response to a petition circulated by one of our members (Eileen John) and many, many other comments. These are public lands, and the will of the public should be considered in their management. We do not favor an increase in herbicide use.

Instead, we favor the "write-in" alternative for vegetative management in the Southern Appalachians:

5% herbicides
5% prescribed fire
75% manual
14% mechanical
1% biological

over a much smaller proportion (2%) of areas designated for timber production. We favor a true Integrated Pest Management Program which includes more reliance on selective harvesting of timber, thereby reducing the needs for vegetation management.

Sincerely,



Mary Sauls Kelly, PhD
Coordinator, WNC Alliance

P.S. We like the alternatives featured prominently and in color on the covers of the Draft EIS. If USFS decides to select the current "Preferred Alternative D" we think the pictures on the cover of the Final EIS should be changed to better reflect that choice and feature herbicide spraying and prescribed burns.

8 Although much is unknown, our analysis was more exhaustive and complete than any other such analysis to date. Mitigation measures in section II.E.2.c are sufficient to protect threatened, endangered, proposed, and sensitive species from adverse herbicide effects. Although overall herbicide use is expected to increase under the preferred alternative, methods used are required to be more selective with lower application rates and less-risk herbicides than under the current program, providing additional protection for threatened, endangered, and sensitive species.

The risk assessment (appendix A) used 19 terrestrial vertebrates, 12 aquatic vertebrates, and 4 aquatic invertebrates to predict risk of toxic effects to wildlife. These species were chosen to represent a broad range of taxonomic groups, food habits, habitat, and geographic occurrence. Using this information and other available studies, risk to all threatened, endangered, proposed, or sensitive species is discussed in chapter IV and appendix D of the Draft and Final EIS. The consensus of the scientists who reviewed the document is that these species have been adequately analyzed.

9 See our response to comments in Letter No. 480, Comment No. 3.

10 This alternative was considered in the Final EIS. See response to comments in Letter No. 474, Comment No. 4. The "write-in" alternative actually had 5% herbicide, 5% prescribed fire, 45% manual, 44% mechanical, and 1% biological breakdown of methods.

We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS.

FELLOW
A.I.C.
A.I.A.S.
MEMBER,
A.C.S.
A.W.P.A.
A.P.C.A.
I.R.G.W.P.
SECOTON

Winslow H. Hartford, Ph.D.
Certified Professional Chemist
Chemical and Environmental Consultant
1413 Redcoat Drive
Charlotte, North Carolina 28211
February 17, 1989

Mr. Steve McCorquodale, Team Leader
Draft AM, Room 3628
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA 30367

Dear Mr. McCorquodale:

The pressure of time and of other commitments prevents me from making a detailed list of comments on the comprehensive report the Forest Service has prepared on the management of the Southern Appalachian region. This is just as well, because my comments deal with the general thrust of the report rather than individual items within it.

I am critical of the general thrust because it deals with pollution rather than conservation, and hence with symptoms rather than causes. This, in turn, is due to the politicization of environmental science, which started with the beginning of the environmentalist movement at the close of the Viet Nam war.

1

Without going into details, the situation has been exacerbated in the U.S. by an administration which has consistently legislated against conservation and instituted policies favorable to the international petroleum industry, which, when all ramifications are considered, must be considered the greatest threat to sound forest management in the U.S.

In preserving the health of the nation's forests, which is essential to a stable climate, the natural regulation of precipitation, and the productivity of agriculture, a petroleum conservation program at the national level is the critical step we must take. On the other hand, the usual environmentalist approach of stiffening regulations against pollution can be demonstrated to be cost-ineffective, because, as a general rule, diminishing limits by a factor of 10 increases cost by a factor of 5, while securing benefits which are increased by less than 0.1. The incremental process cost/benefit is increased by a factor of more than 50, apart from the costs of corrupt enforcement which inevitably accompany scientifically unsound legislation.

As a teacher and writer in the field of environmental science, I have an office full of factual data to support these contentions. I will be glad to consult with you at any time on an expenses-only basis. For the moment, I will make do with four enclosures accompanying this letter:

2

- (1) A statement by John N. Gibbons, Director of the Congressional Office of Technology Assessment, emphasizing the urgency of a national conservation policy.
- (2) A letter (266) to Rep. Dingell on acid rain legislation, pointing to

Response to Comments in Letter No. 509

From: Dr. Winslow H. Hartford

Comment No.

Response

- 1 The issues of global pollution, administration policy, and the petroleum industry all require continued attention by all. However, within the scope of this document, our objective was to examine various alternatives or approaches to management vegetation associated with forest management activities and analyze the environmental effects of each. In doing so, we have developed numerous mitigation measures (chapter II, pages 43-67 in the Draft EIS) that are intended to pose minimum risks to environmental conditions in the Southern Appalachian National Forests.
- 2 We thank you for offering assistance and sending the enclosures. They will be retained with your letter in the Process Records.

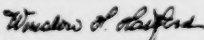
--2--

energy efficiency available with low-sulfur coal as partial solution to this problem, and highlighting TVA as the most serious US polluter. While the automobile is undoubtedly the major influence nation-wide, sulfur acids from TVA are certainly a substantial factor in the red spruce decline at Mt. Mitchell and other Southern Appalachian sites.

- (3) A reprint (279) from the Chemical Weekly (India) documenting some of the bad science which has contributed to costs and ineffective control in a specific industry.
- (4) A letter (280) to India's Minister of Energy pointing out that efficient energy management is both a global and a national problem.

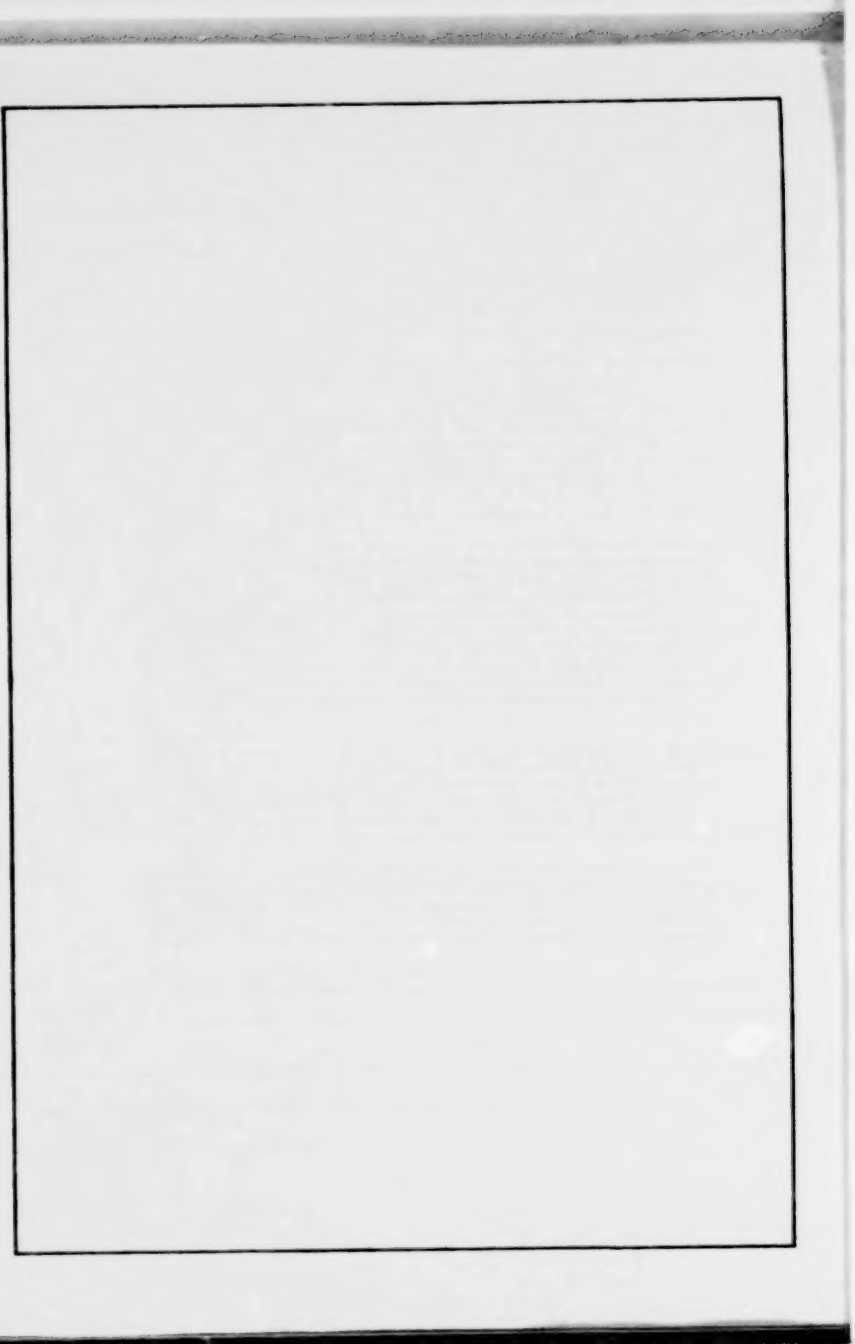
A massive cooperative conservation-reforestation effort is needed. I am impressed by the work of the American Forestry Association, and by the Audubon Society's recognition that organic and conventional farming must be combined to maximize productivity and minimize cost. Unless and until the adversarialism engendered by the erosion of cooperation between government and the private sector, and the substitution of political activism for science, can be brought to an end, it will be very difficult to achieve the goal of efficient use of resources--and a manageable forest environment for a modern society. Yesterday's symptomatic analyses and responses are not good enough.

Sincerely,



Winslow H. Hartford
Professor Emeritus
Environmental Science
Belmont Abbey College

Note: This letter to a public agency is considered a "publication" and has been assigned file number 296. WWH



USDA Forest Service
1720 Peachtree Road, N.E.,
Atlanta GA 30307

Re: Environmental Impact Statement / Vegetation Management

Mr. Steve Mc Corquodale, Team Leader;

Dear Sirs:

Thanks for sending me the requested copy of your IEIS. Sorry not to have replied for so long.

I am unable to get very excited about your report, though it is very thorough a lot of the issues I am interested in are not considered -- I suppose it has been previously decided that large scale changes in the management of the Chattahoochee National Forest are needed. I am not myself of that opinion. I see no need for herbicidal management in particular -- this leaves a lot of standing dead timber in the woods, disturbs the natural balance of growth and remains questionable in economic terms when the costs of production of the herbicides, both economic and environmental, are taken into account.

The primary purpose of the forest service from its creation, and the national forests it is supposed to look after, is conservation. To put it, even on paper, in competition with private interests as an economic producer of marketable timbers is, I believe, a serious mistake. If the forest service operates at a loss to the government this is a price we must pay for the existence of these forests. Please recall that the Chattahoochee Nat. Forest, when it was bought by the government, had been essentially stripped of its virgin timber. It now stands as a glorious forest essentially because of decades of "old growth" management. There may be a legitimate need for some clear cut areas and managed burns for game enhancement purposes, but to make this forest a proving ground for herbicidal management is a mistake for which the Forest Service will very likely pay a severe political penalty in the not too distant future. *that's F*

Thanks again for the opportunity to comment.

I remain, Yours Sincerely,

Albert Greear
Albert Greear
Box 92,
Savannah GA
30571

Response to Comments in Letter No. 510

From: Delbert Greear

Comment No.

Response

- 1 A section has been added to chapter I that clarifies the relationship of tools including herbicides to various activities.

Each tool has its place. In some situations manual and fire are the only practical choices. On the other hand, herbicide treatments for stump sprouting, grass and weed control may be the most practical. The management requirements and mitigation measures required on page II-44 through II-66 are designed to cause the least environmental impact.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Clyde Hollifield
Deep Cove Springs, Inc.
355 Cedar Creek Rd
Black Mtn., N.C. 28711
704-669-6821

Dear Sirs:

1 I am strictly opposed to the
spraying of herbicides on Forest Service
land. I think cutting by hand
is a much better answer.

These herbicides are poison and
will get into the streams.

Thank you
Clyde Hollifield

Response to Comments in Letter No. 511

From: Clyde Hollifield

Comment No.

Response

- 1 Your opposition to the use of herbicides was included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require. Please see response to comments in Letter No. 522b, Comment No. 1.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.



James H. Carson Library

Lees-McRae College

BANNER ELK, NORTH CAROLINA 28614

February 13, 1989

Mr. Steve McCorquodale
 USDA Forest Service
 1720 Peachtree Road
 Atlanta, Georgia 30367

Dear Mr. McCorquodale,

In response to the DEIS regarding vegetation management:

First, it was an impressive document, and demonstrated a lot of effort. Some underlying assumptions, however, are disturbing; and may in the long term take us in directions we do not wish to go. The concept of "management" contains within it the belief that nothing is valuable in its present form, and must be transformed--a dubious concept which has led to gene-pool destruction and contributed to the endangerment of too many species. Once management becomes a goal, it will invariably be controlled by finances--it costs nothing to leave some things alone, but re-arranging them always takes money. Yes, I'm aware that accountants of various types are devoted to counting money which never existed in the first place, and will say that failure to manage does cost money. Probably, such folks should be managed--or drowned.

Perhaps most dangerous in all of this is the arrogance of certainty: we know what is best, we can foresee ecological effects, and we can improve the creation. In spite of blunder after destructive blunder, we persist in a collective arrogance when all of us might better be served by caution and restraint.

If turning over National Forests to "tree-huggers" is a bad idea, then turning them over to accountants, financial interests, and the purveyors of green deserts is hardly a better choice.

One specific suggestion: forget about aerial spraying of any pesticides or herbicides. The cure is worse than the disease, it is false economy, and it is dangerous. Given the unemployment rate in counties where national forests are located, it is more effective to utilize labor-intensive practices. The steeper the land, the more important restraint

1



THE COLLEGE THAT CARES

PAPER THRU-MAIL

Response to Comments in Letter No. 512

From: Richard C. Jackson

Comment No.

Response

- 1 Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS). Areas available for treatment represent less than .003% of the 130,000 acres that are proposed for annual treatment.

page 2

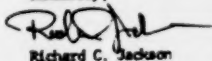
becomes. We have long since passed the time when we could blissfully think that we can "manage" the forest without affecting the soil and water. I suggest that more attention be paid to water--it used to be abundant and of high quality.

2

I was puzzled by the comment that six plant species were listed as endangered or threatened. That seems to be something of an understatement.

Thank you for your work and the invitation to respond.

Sincerely,



Richard C. Jackson

Hastily, please excuse corrections.
R.

- 2 These terms refer to plants officially listed by the Federal government as endangered or threatened. The Forest Service lists additional species as sensitive. There are actually seven species listed as threatened or endangered. This has been corrected in chapter III.



*South Carolina
Wildlife & Marine
Resources Department*

James A. Timmerman, Jr. Ph.D.
Executive Director
W. Brock Conrad, Jr.
Director of
Wildlife and Freshwater Fisheries

February 15, 1989

Mr. Steve McCorquodale
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, GA. 30367

Dear Steve:

Department staff have reviewed the Draft Environmental Impact Statement - Vegetation Management in the Appalachian Mountains. We appreciate the opportunity to review the document and offer the following comments for your consideration.

The DEIS presents eight alternatives which range in scope of intensity from alternative A, which is no action, to alternative H, which calls for maximum vegetation control through use of herbicides at maximum effective rates. Alternative C continues present levels of treatments specified in Forest Land and Resource Management Plan while alternative D decreases mechanical and manual treatments while increasing the use of herbicides and slightly increasing the use of prescribed fire. Alternative B would involve very low intensity treatments which would not achieve resource objectives called for in the Forest Management Plan. Alternative E encourages manual and mechanical methods for site preparation while discouraging prescribed fire. Alternative F uses no herbicides but increases all other control methods. The only alternatives which merit consideration are alternatives C, D and F. Alternative D is the Forest Service's "preferred" alternative.

1 It is difficult to determine the actual effect of implementing these alternatives on the smaller scale of a single district since the DEIS covers such a large area. Acreage figures are not presented for each individual state or forest. According to the DEIS (p.II-2) "average number of acres treated per year by each method are estimated". These acres are only projections used to evaluate environmental effects quantitatively. The degree and distribution of treated areas on a local area, i.e., Andrew Pickens Ranger District, is needed to determine the overall effect of the plan. Since this information is not presented in the DEIS, comments are made assuming that changes in the Andrew Pickens District of South Carolina would be proportional to the changes presented for the region.

2 It is clear that the primary goal of the DEIS is to allow increased use of herbicides by the Forest Service and to initiate

Response to Comments in Letter No. 513

From: John E. Frampton

Comment No.

Response

- 1 Assuming that changes in South Carolina would be proportional to regional changes may not be correct. But if it were, the changes represent a minute shift in direction over a single Ranger District.
- 2 The goal of the EIS is only to analyze and disclose effects, not to justify a course of action. The preferred alternative was identified based on the results of analysis. As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

3 serial application of herbicides. In fact a direct quote from p. I-8 states "the DEIS analyzes several methods of vegetative management but herbicide use is a focal point". The majority of the document addresses herbicide use and attempts to justify an increase in this vegetation management method. The Forest Service's initiative to increase herbicide utilization is questionable since the order of publicly preferred suggestions for treatments rated herbicides last (p. I-6 para. 2). The DEIS states that the order of preference for methods to be used was manual, mechanical, prescribed fire, and herbicides. The increase in herbicide utilization called for in alternative D certainly does not concur with statements found on p. II-1. These statements read "In May 1988, an interdisciplinary team considered additional public comment and determined the mix of methods appropriate to each theme. Finally, the team compared mixes of methods to find similarities, combined where appropriate, and wrote alternative statements". It certainly does not seem that the team took a hard look at public comments when the least preferred public method was increased in the preferred alternative.

4 Throughout the DEIS, statements concerning the potential and unknown dangers of herbicides are found. A statement to this effect is found on p. I-8, "And indeed there is some scientific uncertainty about long term effects of herbicides". On page IV-66, paragraph 2, the statement is made that "More research is needed into long term effects on animals associated with plant communities treated with combinations of herbicides and periodic fire." The Appalachian region of South Carolina provides the state's only habitat for trout. This limited resource is highly valued. Trout are very sensitive to environmental perturbations and the department is deeply concerned that herbicide use will impact these sensitive, cold-water fishery resources. Devegetation of buffer zones around streams can decrease the canopy and warm the stream to levels unacceptable for trout. Aerial applications of herbicides are difficult to control and may get into streams either directly or through run-off. Entrance of herbicide into streams would be detrimental to cold-water fishery resources of this region. These and similar concerns are not adequately addressed in the DEIS and need additional consideration.

5 Alternative D has the largest shifts among methods occurring in site preparation (from use of manual methods to herbicides and prescribed fire), roadside maintenance (from use of mechanical methods to herbicides), and wildlife habitat improvement (from use of mechanical methods to herbicides). Aerial application of herbicides is introduced on selected utility and gas lines. All of these shifts except for prescribed fire for site preparation will be detrimental to wildlife populations. In the Appalachian Mountains browse is often the limiting factor for deer populations. Legumes and other tender vegetational plants are utilized by turkeys, deer, quail, grouse, bear and many other game and nongame species. Manual and mechanical methods and prescribed fires encourage succulent young stem and legume

- 3 We feel that public involvement gives the public a format to participate and strengthens our analysis for two broad areas. The first is to identify issues to help us establish the scope and direction of the analysis. The second is to identify areas where our analysis may need to be improved or reconsidered, such as the incorporation of additional research studies not previously identified in our literature search or new studies not available when the Draft EIS was published. This permits conclusions to be based on what the scientific analysis shows the effects on the environment and our programs will be as opposed to drawing conclusions from an "opinion poll." Also, public involvement occurs when site-specific analysis (management requirement number 1, page II-44 of the Draft EIS) is prepared for projects covered by this programmatic EIS.
- 4 We certainly agree that trout are among the most sensitive fish to disturbances such as increased temperatures, sediment loads, and chemical concentrations. Potential entry of herbicides to streams and their effect on aquatic life are discussed in EIS section IV.G.1. Our mitigations require herbicides to be applied at low rates, in favorable weather, as granules or large droplets, and using streamside buffers and (where applicable) an aerial operations plan (Draft EIS pages II-58, II-62, and II-64). The only case where herbicide concentrations might exceed 0.050 ppm in a flowing stream is if the stream is overflowed and herbicide is accidentally still being applied (Draft EIS page IV-99). This phenomenon should be extremely rare for two reasons: (1) in the Final EIS, alternative D has been modified so that only 400 acres per year (less than 1/100 of 1 percent) of national forest land in the Appalachians can be aerially treated; and (2) in the Final EIS, the width of streamside buffers for aerial herbicide use has been increased to 200 feet, and they must be clearly marked so the pilot can easily see and avoid them. Risks to trout from our herbicide usage will be minimal.
- 5 Effects of herbicides used for site preparation vary with herbicide and method of application. Chapter IV discusses these effects. Some researchers have observed short-term reductions in deer forage followed by increases. In most cases, any reduction is temporary. Appropriate herbicides may be used to increase desirable forage species while temporarily reducing browse. The preferred alternative requires a reduction in broadcast treatments (Final EIS page II-11) to 0-10 percent of herbicide treatments in the general forest area. Substituting selective methods lessens the impact of herbicides on browse production. One research study indicated that rights-of-way maintained by selective herbicide application are better deer and songbird habitat than those maintained by mowing.

production. Herbicides which are used in site preparation decrease these important plants in an area where they are usually already limited. We discourage the use of herbicides for site preparation, roadside maintenance, wildlife improvement, and use on gas and power lines. These areas are heavily utilized for bugging, nesting, loafing and feeding and the maintenance of these tender young shoots is essential in mountainous habitat.

6 Throughout this document statements are made which suggests that current practices on Forest Service lands are more intensive and more detrimental to wildlife than alternative D. A rather flagrant example is found on p. 11-59. It is stated that "herbicides and application methods are chosen to minimize adverse effects on human health, wildlife and the environment. This measure applies only to alternatives B, D, E, and G". Another is found on p. 11-68 where it is stated "risk is reduced from current levels by reducing exposure and through selection of safer herbicides". Do these two statements mean that current Forest Service practices do not seek to minimize adverse effects on human health, wildlife, and the environment?

Another example can be found on p. X under environmental consequences where it is stated that "alternatives C and H use high disturbance tools such as severe slash burns, raking and heavy disking". I am not aware of raking or heavy disking or severe slash burns being used on the Andrew Pickens District at this time. In fact, during a recent conversation with Forest Service personnel on the Pickens' district, our staff was informed that all pine site preparation was being conducted by using an intense fire over a moist soil and humus layer. By protecting this humus layer, a high soil productivity level is maintained. Pine growth and yield loss is minimized compared to other more intense site preparation methods. This practice is referred to on p. IV-42 and blends in well with wildlife management practices. The practice minimizes soil disturbance and allows for pine/hardwood management without significant loss of pine growth. Our staff would certainly like to see this program continue and be used throughout the southeast.

I believe all of these statements are made to make the preferred alternative look more attractive. Repeated examples of this type of bias can be found on pages 11-58 through 11-67. In paragraphs number 6, 7, 8, 15, 24, 26, 32 and 33 under the heading of Herbicide Method, it is stated that these measures apply only to alternatives B, D, E and G. Most of these paragraphs deal with safety, wildlife and environmental concerns. For example paragraph 8 deals with timing herbicide use so as not to pose a safety risk to berry pickers, hikers, viewers and fuelwood gatherers. This measure applies only to alternatives B, D, E and G. Are we to assume that current Forest Service practices (alternative C) make no concessions for public safety? Why is alternative C left out of each one of these paragraphs. We hope the Forest Service is currently not minimizing safety, wildlife

6

Alternative C represents the current situation, and, as such, cannot be modified by findings of the EIS no matter how good or bad they might be. Many of the mitigations were developed through our EIS analysis, are not currently used, and thus are not a part of alternative C. This does not mean that hazardous or environmentally damaging situations are currently accepted. The new mitigations simply increase protection from the current level based on new information in the EIS.

and environmental risks. This tendency to sway public opinion continues throughout Table II-3 where it might appear that your current practices decimate land, wildlife, and have no regards for public safety.

7

Paragraph 23 under the heading Corridors and Paragraphs 7, 8, and 9 under the heading Soil and Water Protection, also conspicuously leave out the current alternative. Paragraph 8 states that "On severely eroded forest soils, any area with an average litter-duff depth of less than 1/2 inch is not burned. This measure applies only to alternatives B, D, E and F." Again does the current alternative encourage burning severely eroded soils?

8

Paragraph 1 on p. II-67 states "that this environmental impact statement is an educational tool, and in part, addresses the communication issue". The final sentence of the paragraph ends "the DEIS mandates several processes of steps in the future to encourage a high level of participation". While the document does contain a lot of information, it is definitely cumbersome and hard to follow. It is also extremely biased in its presentation of facts. This is a good way to discourage rather than encourage public participation.

Alternative F does not allow herbicide use. The largest acre shifts from the use of herbicides occur in timber stand improvement (all to manual methods), site preparation (about equally to prescribed fire and mechanical and manual methods), and roadside maintenance (mostly to mechanical methods).

9

Based on the preceding comments, the department recommends that the Forest Service reject alternative D in favor of alternative F or C. We request that specific information be provided for the Andrew Pickens District in South Carolina including acres by treatment methods for alternatives C, D and F, a breakdown of acreages for each mechanical method, and specific acres by method utilized in the costs analysis. We would also like specifics on how current practices (alternative C) are so intense that they are hazardous to man, wildlife and the environment.

We urge the Forest Service to choose either alternatives C or F with the following constraints:

- If alternative C is chosen, minimize the intensity of methods through the use of sound conservation and economic practices.
- The primary method of site prep should be intense burn on moist soil and humus so as to discourage soil erosion and encourage soil fertility and pine/hardwood mixes. This burning should be conducted no earlier than July 1.

- 7 It is true that severe burns, raking, and heavy diskings may not occur on the Andrew Pickens District, but they are not excluded in all other Forest Plans and so had to be analyzed as available.
- 8 The interdisciplinary team views its writing assignment as equal in importance to the analysis. Good communications is a top priority. While many reviewers commented that this very complex technical subject has been handled very well, some may still find it overly complex. Our analyses were biased only in that they deliberately overestimated potential adverse effects of herbicides to increase our level of protection.
- 9 Your preference for alternative F or a modified alternative C was included in the content analysis of all comments received. A specific acre breakdown by Ranger Districts is not appropriate for such a programmatic EIS that covers 10 national forests. Please see our response number 2 above.

- If alternative C is chosen, limit herbicide application to selective methods.

- Adhere to all wildlife standards to encourage browse, hard and soft mass production.

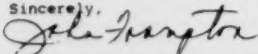
- Wildlife openings and linear wildlife strips should be placed in fertile areas where erosion is not a problem.

- Mowing should be used on gas and powerline ROW's whenever practicable to encourage browse production.

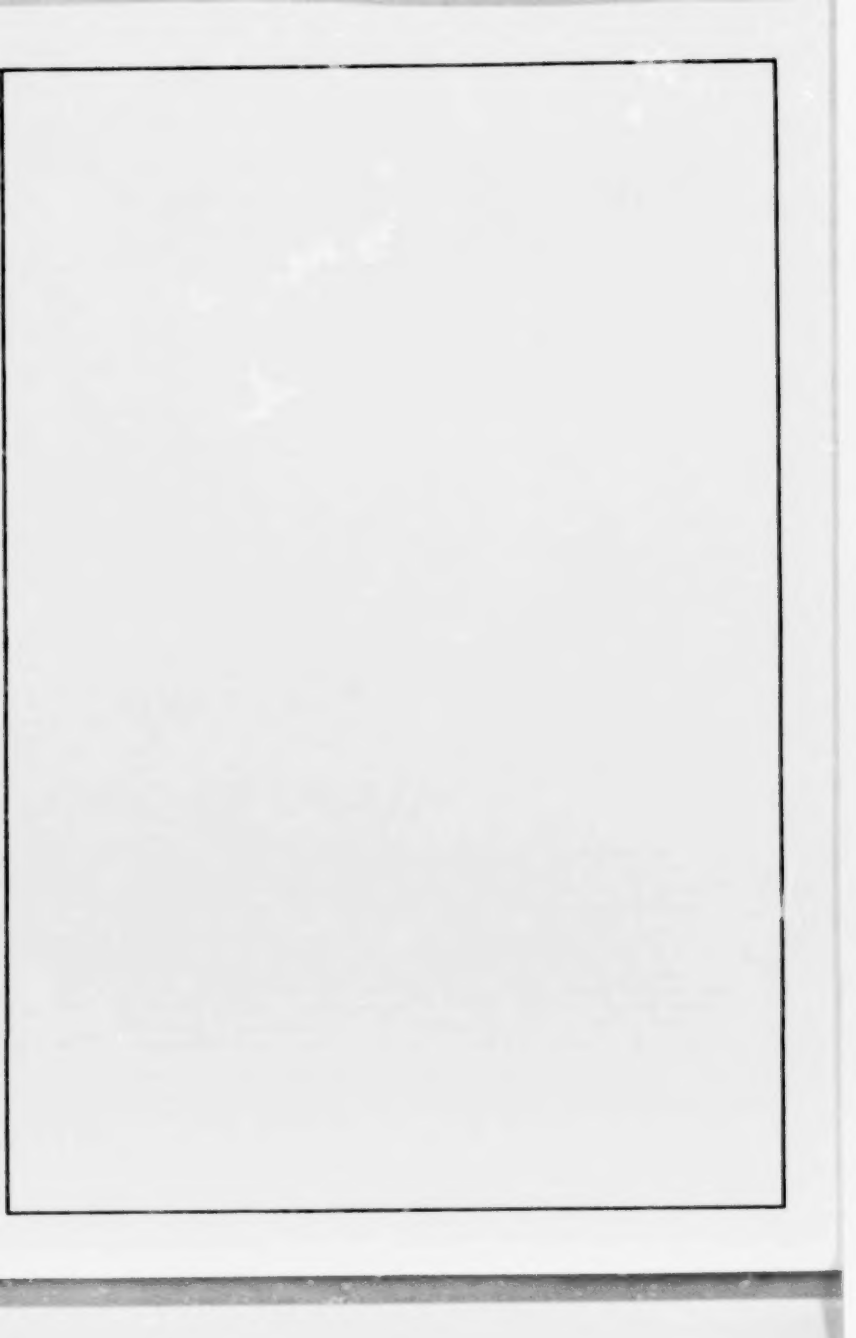
We are concerned as to how the Final Impact Statement and the subsequent implementation of the program will relate to the Sumter National Forest Land and Resource Management Plan. As you may know, the South Carolina Wildlife and Marine Resources Department made an appeal to the plan due to wildlife concerns. Any change to this plan that will have a negative impact upon wildlife populations and wildlife-related recreation will be of continued concern to this department.

I appreciate the opportunity to comment on the DEIS and will be happy to furnish you with any additional information or clarification.

Sincerely,



John E. Frampton
Chief, Game Section





COMMONWEALTH of VIRGINIA

Council on the Environment

KEITH BULLEN
ADMINISTRATOR

JOHN A. BROWN
MANAGING
DIRECTOR

February 17, 1989

Mr. Steve McCorquodale
Team Leader - Vegetation Management
USDA - Forest Service
1720 Peachtree Road
Atlanta, Georgia 30367-9102

RE: Draft EIS on Vegetation Management in the Appalachian
Mountains

Dear Mr. McCorquodale:

The Commonwealth of Virginia has completed its review of the Draft Environmental Impact Statement concerning vegetation management in the Appalachian Mountains. The Council on the Environment is responsible for coordinating Virginia's review of federal environmental documents and responding to appropriate federal officials on behalf of the Commonwealth. The following agencies joined in this review:

Department of Agriculture & Consumer Services
Department of Conservation & Historic Resources
Department of Forestry
Department of Health
Department of Waste Management
Department of Air Pollution Control
State Water Control Board

The Commonwealth of Virginia discourages the use of chemical control methods for vegetation management in instances where there are other viable alternatives that are less detrimental to human health and environmental resources. Consequently, we believe that from the environmental perspective Alternative F is better than all other alternatives discussed (excepting Alternative A which proposes "no action") in the draft EIS document. Since Alternative F does not propose the use of herbicides, the risk to human health and water supplies is eliminated.

Furthermore, we believe that alternatives proposing to increase aerial application of herbicides are unacceptable in that they increase the risk of accidental contamination of groundwater and surface water, affect non-target groups including threatened and endangered species, and are potential health hazards. For these reasons we find Alternatives D (the alternative preferred by the Forest Service), G, and H unacceptable.

Response to Comments in Letter No. 522

From: Keith J. Buttleman

Comment No.

Response

- 1 Responses to comments made by each of the agencies are addressed in individually. See responses to comments in Letter Nos. 522a, 522b, 522c, and 522d.
- 2 Your preference for alternative F has been included in the content analysis of all comments received.

In the Final EIS, we have strengthened and expanded the number of mitigation measures for all methods to assure the minimum adverse impact to humans, wildlife, and the environment and still accomplish the related vegetation management activities in each Forest Land and Resource Management Plan. Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that with the many mitigation measures listed in chapter II, it will permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. The requirements of special importance are the use of only least-risk (class A, table II-1) herbicides, reduced application rates, selective application techniques, protective equipment for workers, protection of non-target species, prevention of spills and accidents, buffers for water sources and private property, public notification, stringent criteria for availability, and use of aerial application.

- 3 Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

Also see mitigation number 2 on page II-44 of the Draft EIS (requirement for biological evaluation of threatened, endangered, proposed, and sensitive species).



COMMONWEALTH of VIRGINIA

Council on the Environment

KEITH J. BUTLERMAN
ADMINISTRATOR

VERNON WATKINS
SECRETARY

February 17, 1989

Mr. Steve McCorquodale
Team Leader - Vegetation Management
USDA - Forest Service
1720 Peachtree Road
Atlanta, Georgia 30367-9102

RE: Draft EIS on Vegetation Management in the Appalachian Mountains

Dear Mr. McCorquodale:

The Commonwealth of Virginia has completed its review of the Draft Environmental Impact Statement concerning vegetation management in the Appalachian Mountains. The Council on the Environment is responsible for coordinating Virginia's review of federal environmental documents and responding to appropriate federal officials on behalf of the Commonwealth. The following agencies joined in this review:

- Department of Agriculture & Consumer Services
- Department of Conservation & Historic Resources
- Department of Forestry
- Department of Health
- Department of Waste Management
- Department of Air Pollution Control
- State Water Control Board

The Commonwealth of Virginia discourages the use of chemical control methods for vegetation management in instances where there are other viable alternatives that are less detrimental to human health and environmental resources. Consequently, we believe that from the environmental perspective Alternative F is better than all other alternatives discussed (excepting Alternative A which proposes "no action") in the draft EIS document. Since Alternative F does not propose the use of herbicides, the risk to human health and water supplies is eliminated.

Furthermore, we believe that alternatives proposing to increase aerial application of herbicides are unacceptable in that they increase the risk of accidental contamination of groundwater and surface water, affect non-target groups including threatened and endangered species, and are potential health hazards. For these reasons we find Alternatives D (the alternative preferred by the Forest Service), G, and H unacceptable.

Response to Comments in Letter No. 522

From: Keith J. Buttleman

Comment No.

Response

- 1 Responses to comments made by each of the agencies are addressed in individually. See responses to comments in Letter Nos. 522a, 522b, 522c, and 522d.
- 2 Your preference for alternative F has been included in the content analysis of all comments received.

In the Final EIS, we have strengthened and expanded the number of mitigation measures for all methods to assure the minimum adverse impact to humans, wildlife, and the environment and still accomplish the related vegetation management activities in each Forest Land and Resource Management Plan. Our analysis has disclosed the effects of each method and demonstrated a need for all methods when applied properly. In trail maintenance and coppice hardwood regeneration, manual methods are the preferred method. Where soil tillage is required, mechanical is preferred; and where hazard fuel reduction is critical, so is prescribed fire. Likewise, where individual stems need released from competition or control of sprouting is needed, herbicides are preferred. Proposed herbicides have been analyzed in detail through the Risk Assessment process (appendix A) and have made very conservative estimates of risk. This process was extensively peer reviewed by experts in toxicology and commented on by EPA, U. S. Fish and Wildlife Service, and the Center for Disease Control. As a result, we believe that with the many mitigation measures listed in chapter II, it will permit an acceptable level of risk to humans, wildlife, and the remainder of the environment. The requirements of special importance are the use of only least-risk (class A, table II-1) herbicides, reduced application rates, selective application techniques, protective equipment for workers, protection of non-target species, prevention of spills and accidents, buffers for water sources and private property, public notification, stringent criteria for availability, and use of aerial application.

- 3 Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

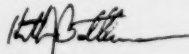
Also see mitigation number 2 on page II-44 of the Draft EIS (requirement for biological evaluation of threatened, endangered, proposed, and sensitive species).

4 However, Alternative D could be improved by eliminating the aerial spraying proposed and increasing the use of manual and mechanical methods. While we understand that manual and mechanical methods are more labor-intensive, thereby increasing the cost to manage the forest, we believe that the environmental benefits to be derived from any option which minimizes the use of herbicides is well worth the additional cost. It is not necessarily correct to assert, as the draft EIS does, that manual and mechanical methods threaten the safety of workers to a greater extent than those using herbicides. While statistics for the effects of manual and mechanical methods on worker safety exist, only limited information on the short-term and long-term effects of herbicides on human health and safety is presently available. Therefore, it is difficult to compare the adverse effects of these different methods of vegetation management on workers.

Alternative C and H which propose to use high-disturbance mechanical tools are undesirable because of the potential to increase soil erosion and sedimentation. However, Alternative C is preferable to Alternative H since, in addition to using high density disturbance tools, Alternative H also proposes to use herbicides.

Thank you for the opportunity to review this project.

Sincerely,



Keith J Buttlaman

Enclosures

cc. Honorable John W. Daniel, II
Mr. John R. Davy, DCHR
Mr. C. E. Easlick, SWCB
Mr. Harry E. Gregori, DWH
Dr. Robert B. Stroube, SDH
Mr Donald M. Kludy, DACS
Mr. Philip Grimm, DOF

- 4 Statistics for safety of method are accurate. Within the Forest Service program over the last 4 years fewer accidents per 1,000 hours worked occurred in our herbicide program than in either manual or fire programs. Few assertions are made relative to health risks in the long term (herbicides and cancer/mutagenicity are discussed; brown-and-burn are discussed; etc.) including various risks associated with respiratory damage from smoke or gas fumes, secondary infections, etc., all resulting from manual, fire or mechanical tools.

Our approach was to use all existing health and safety data together with our Risk Assessment models to do as detailed an analysis of comprehensive health and safety effects as possible. The analyses were subjected to rigorous scientific review (EIS chapter V) and have broad support for their thoroughness and conservative overestimates of potential risk.

Comparisons are difficult; however, with all the required mitigation incorporated and the conservative analysis of herbicides, we think a comparison can be made and is necessary to assure the best health and safety to our workers.

B C LEYNES JR
Director



ADMINISTRATION
HISTORIC LANDMARKS
NATURAL AREAS CONSERVATION
PLANNING AND RECREATION SERVICES
SOIL AND WATER CONSERVATION
STATE PARKS

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND HISTORIC RESOURCES
Division of State Parks
203 Governor Street, Suite 306
Richmond, Virginia 23219 (804) 786-2132
Ronald D. Sutton, Commissioner

MEMORANDUM

DATE: January 20, 1989
TO: Charlie Ellis
FROM: John R. Davy *[Signature]*
SUBJECT: Vegetation Management in the Appalachian Mountains

A-P1-ZRR-89
MRC

After review of the above project our Department has the following comments:

1 The Division of Planning and Recreation Resources questions the use of some the recommended herbicides in the preferred alternative. The Draft Environmental Impact Statement indicated that data gaps existed for many herbicides and species (p.IV-68;Vol.I). Hence the impacts of aerial applications of certain herbicides and their carriers on species in the treatment area are generally unknown. Further evaluation of the preferred alternative and selection of a least impactive herbicide would appear to be in order.

2 The Natural Heritage Program maintains site specific data for rare, threatened, and endangered plants, animals, and communities. This information can aid in the proper location of management areas and in the determination of a broad scope of impacts. The NHP should be contacted if further assistance is needed.

ME:me

cc: Richard Gibbons
Katie Perry

E00191/vpc

Response to Comments in Letter No. 522a

From: John R. Davy

Comment No.

Response

- 1 Please see mitigation numbers 4-8 on pages II-58 and II-59 of the Draft EIS. In the Final EIS, mitigation number 3 has been revised to require Regional Forester approval prior to using class B and C herbicides. This virtually eliminates their future use. For response to data gaps, see Letter No. 480, Comment No. 3.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

- 2 Your assistance has already been very helpful in developing the list of sensitive species in appendix F. We will continue to draw upon your department's expertise.

B C LEVINS, JR.
Director



ADMINISTRATION
HISTORIC LANDMARKS
NATURAL AREAS CONSERVATION
PLANNING AND RECREATION SERVICES
SOIL AND WATER CONSERVATION
STATE PARKS

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND HISTORIC RESOURCES

Division of State Parks
203 Governor Street, Suite 306
Richmond, Virginia 23219 (Rich) 786-2182
Ronald D. Sutton, Commissioner

MEMORANDUM

DATE: January 20, 1989

A-Pi-2RH-89
MRLC

TO: Charlie Ellis

FROM: John R. Davy

SUBJECT: Vegetation Management in the Appalachian Mountains

After review of the above project our Department has the following comments:

1 The Division of Planning and Recreation Resources questions the use of some the recommended herbicides in the preferred alternative. The Draft Environmental Impact Statement indicated that data gaps existed for many herbicides and species (p. IV-68/Vol. I). Hence the impacts of aerial applications of certain herbicides and their carriers on species in the treatment area are generally unknown. Further evaluation of the preferred alternative and selection of a least impactive herbicide would appear to be in order.

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MRL:me

cc: Richard Gibbons
Eddie Perry

EO0191/vpc

Response to Comments in Letter No. 522a

From: John R. Davy

Comment No.

Response

- 1 Please see mitigation numbers 4-8 on pages II-58 and II-59 of the Draft EIS. In the Final EIS, mitigation number 3 has been revised to require Regional Forester approval prior to using class B and C herbicides. This virtually eliminates their future use. For response to data gaps, see Letter No. 480, Comment No. 3.

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- 2 Your assistance has already been very helpful in developing the list of sensitive species in appendix F. We will continue to draw upon your department's expertise.

MEMORANDUM

State Water Control Board

F O B: 11143

Richmond, VA 23261

SUBJECT: USDA's D-EIS: Vegetation Management
in the Appalachian Mountains

TO: Charles Ellis, III

FROM: C. E. Eastlick *CE*

DATE: January 31, 1989



Our comments concerning subject D-EIS are constrained to the two specific questions raised by the USDA Forest Service and also to the issues of water quality and aquatic life:

1. "Have we done an adequate scientific analysis?"

Yes. The D-EIS does a thorough job of analyzing the consequences of the various management techniques and especially so for those risks associated with herbicides. There is no need to reiterate the information provided in the document other than to state that there are potential risks ascribed to herbicide application to endangered species, human health, aquatic life, and drinking water; that there is potential for soil erosion and stream sedimentation from the use of high intensity mechanical methods while prescribed burning and manual methods have minimal adverse effects.

2. "Do the Alternatives respond to your concerns?"

There are viable options among the choices given, but the recommended alternative D is unacceptable from a water quality and endangered species perspective because of the risks implicit with aerial application of herbicides. The alternatives D, G, and H are not acceptable because their common element of aerial application of herbicides increases the chance of contamination of surface and groundwater and toxicity to aquatic life. Alternatives C and H are not acceptable because of the potential for a greater degree of soil erosion and sedimentation from high disturbance mechanical methods.

Of the remaining alternatives, save alternative A which is "no action", alternative F configures as the best choice from a water quality perspective because no herbicides are used. The next best choice would be option B which allows hand application of herbicides only plus burning and manual methods. The disadvantage of alternative F over B is that there will be greater opportunity for soil disturbance through more intensified use of mechanical methods. This impact would however be offset by the fact that herbicides would not be used.

Response to Comments in Letter No. 522b

From: C. E. Easlick

Comment No.

Response

- 1 Potential entry of herbicides to surface and ground water is discussed on Draft EIS pages IV-99 and IV-106. The discussion shows that, by applying herbicides at low rates and frequencies, in favorable weather conditions, as granules or large droplets, and using buffers as we require (Draft EIS pages II-9, II-58, II-59, II-60, II-62, and II-64), concentrations should not exceed 0.050 ppm in perennial streams or 0.025 ppm in even shallow ground water or pose a risk to threatened, endangered, proposed, or sensitive species.

Aerial herbicide use poses no more risk to ground water than other broadcast application methods. It does pose more risk to streams only if a stream is overflowed while herbicide is still accidentally being applied. This phenomenon should be extremely rare for two reasons: (1) in the Final EIS, alternative D has been modified to allow aerial herbicide use on only 400 acres per year (0.008 percent of national forest land in the Appalachians); and (2) in the Final EIS, streamside buffers for aerial herbicide use have been widened to at least 200 horizontal feet to provide more protection in mountain terrain, and all buffers must be clearly marked so the pilot can easily see and avoid them. Also, mitigation measure number 7 on page II-59 of the Draft EIS has been strengthened to require Regional Forester approval prior to use of class B and C herbicides.

- 2 Your preference for alternative F has been noted. Actually, our analysis showed three alternatives to be superior to F in protecting water quality; they are, in order, alternatives A, B, and E. The increased sediment in alternative F due to more use of mechanical tools more than offsets the avoidance of minimal contamination risk by eliminating herbicide use. Alternatives D through G all provide good water quality protection (Draft EIS pages IV-109 to IV-115); all produce less than 1 percent of natural sediment yield from the national forests and pose minimal to low risk of stream contamination by the proposed herbicides.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

Page 2
Charles Ellis, III

It is always a pleasure to review USDA's well prepared documents and, in this instance, we will retain the documentation relating to toxicity and risk assessment for use as ready reference in evaluating similar aspects of other projects.

EDE1/lcw





Charles H. Ellis
December 21, 1988
Page 2

The document indicates that only experienced, trained, and properly certified Forest Service personnel (or their approved contractors) will buy, store, transport, use, and dispose of any herbicides to be used in the proposed activity. Only empty, triple-rinsed containers will be left to be disposed of, in accordance with federal and state regulations. All persons involved with herbicide application work will wear the prescribed safety equipment, and will be supervised in this activity. The proposed management activity will be monitored to ensure there is no adverse impact to human health, private property, ground or surface water, wildlife, and natural resources.

1 The United States Department of Agriculture/Forest Service is advised that citizens of the Commonwealth of Virginia are very concerned about projects involving the use of pesticides, herbicides, and other chemicals in the environment. Accordingly, the Department of Waste Management encourages this federal agency to continue to educate the public about such issues as vegetation management. Project activities in the Commonwealth should endeavor to minimize the amount of hazardous waste produced and to reduce at the source and recycle any solid wastes produced.

Questions about waste management in Virginia can be directed to the Department by calling (804) 225-2667.

Attachments

Response to Comments in Letter No. 522c

From: Dr. Cathy L. Harris

Comment No.

Response

-
- 1 Commenter's concern for both reduction in amount and proper disposal of solid waste generated in the Forest Service's herbicide program is noted.



COMMONWEALTH of VIRGINIA

S. MASON CARBAUGH
COMMISSIONERDEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES
Division of Product and Industry Regulation
P. O. Box 1163, Richmond, Virginia 23209JELLY W. SOUTHWELL
DIRECTOR

February 8, 1989



Mr. Charles Ellis
Environmental Coordinator
Council on the Environment
903 Ninth Street Office Building
Richmond, VA 23219

Dear Mr. Ellis:

This is in reply to the United States Department of Agriculture-Forest Service request for comments on the Draft Environmental Impact Statement (EIS) concerning Vegetation Management in the Appalachian Mountains. Comments are due by February 17, 1989.

The USDA-Forest Service should be commended for their efforts in the preparation of the Draft EIS. The Risk Assessment for the use of herbicides is especially detailed.

1 I concur with the recommendation of Alternative D as the preferred alternative.

In the development of its vegetation management plan, USDA-Forest Service must always keep in mind its over-all resource management objective and output goals. Alternative D allows for a mix of methods and intensity of tools within each method to accomplish the objectives and goals.

The decrease of both mechanical and manual methods will result in less accidental injuries to workers as these methods pose greater risks to workers than health impacts from herbicides. This is a plus as worker safety is very important.

The assumptions made in the development of the Risk Assessment for the use of herbicides, as stated by the authors, were conservative (on the side of safety). That is, assumptions tended to overestimate risk, which is good. In the comparison of cancer risks to humans, many occupational risks as well as lifestyles pose a greater risk than do the herbicides described in the EIS.

Response to Comments in Letter No. 522d

From: Donald H. Kludy

Comment No.

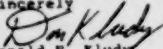
Response

-
- | | |
|---|--|
| 1 | Your preference for alternative D was included in the content analysis of all comments received. Thank you for your support. |
|---|--|

The other areas of possible concern, such as the effects of the vegetative management programs on wildlife and aquatic species, were adequately addressed.

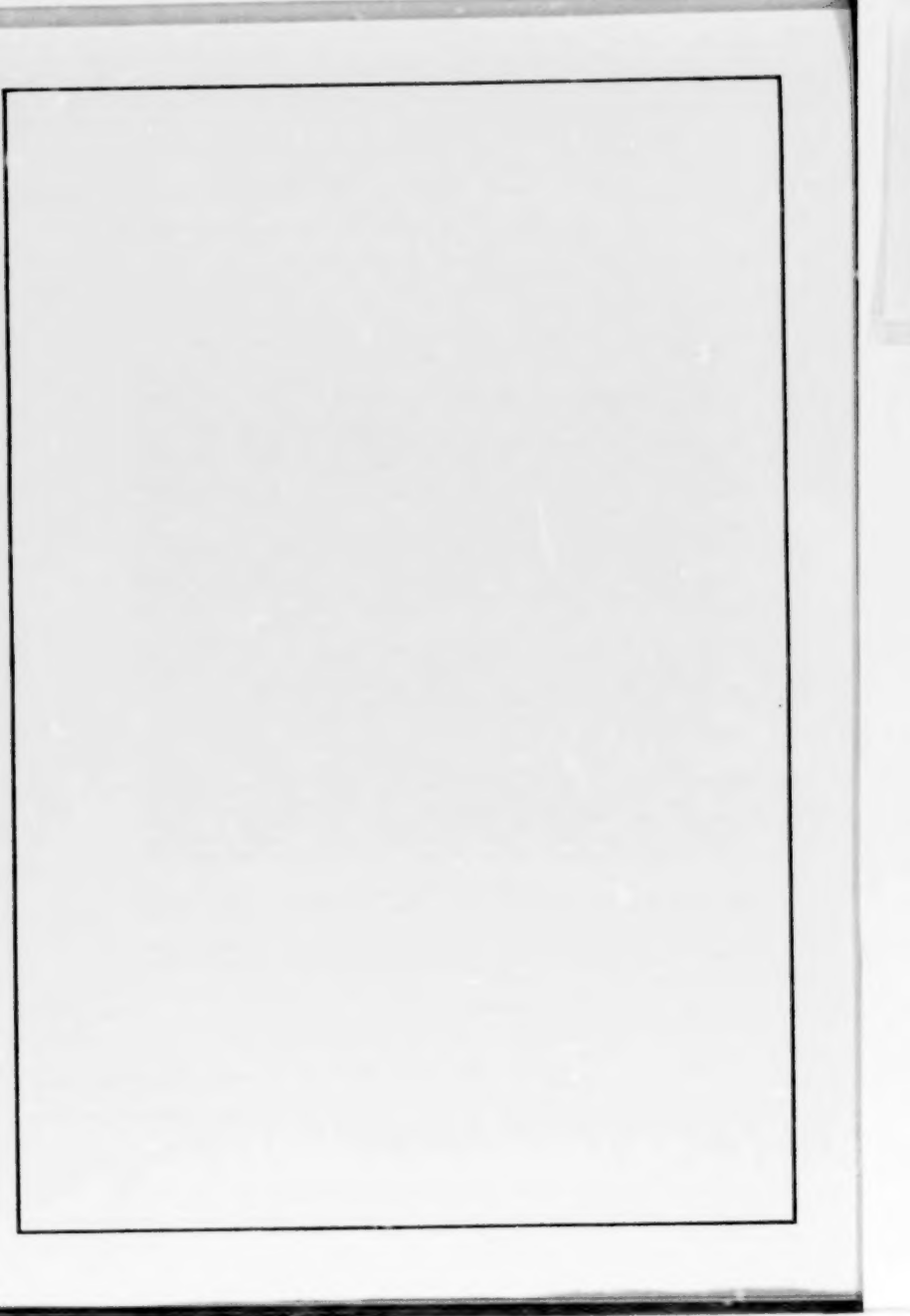
One can always find something in a report of this type and complexity that the reviewer might have done differently from the authors. I had difficulty comparing several tables. However, taken as a whole, the EIS is well written.

Sincerely



Donald H. Kludy
State Entomologist
Bureau of Plant Protection
804/786-3515

cc: J. C. Stewart
W. P. Zentmeyer





LONG BRANCH
ENVIRONMENTAL
EDUCATION
CENTER

U.S. Forest Service
VATT Rm. 262 South
1720 Peachtree Rd. N.W.
Atlanta, GA 30367-9102

February 15, 1989

Dear Gentlemen:

1 I strongly urge the USFS to drop immediately any plans for the use of herbicides for vegetation management in the NC National forests. The risk to public health is simply not worth the expenditure on toxic biocides. The potential impacts on aquatic ecosystems, rare, threatened & endangered plant species, & wildlife are too formidable & dangerous to be risked.

2 Several counties in western North Carolina continue to experience high levels of unemployment due to large ownership of their respective landbases by the Federal government. Why can't the USFS help to mitigate the severe unemployment problem in WNC by utilizing more mechanical & manual means of vegetation control? This practice would put people to work who desperately need it, & would accomplish the desired goals of vegetation management.

Thank you for your attention to these comments. Please keep me apprised on any other opportunities for public input on deciding this important issue.

Sincerely,

Paul D. Baltimore

Paul D. Baltimore

Director

Route 2, Box 132 Leicester, N.C. 28748

Big Sandy Mush Creek (704) 683-3662



Response to Comments in Letter No. 523

From: Paul B. Gallimore

Comment No.

Response

- 1 Your opposition to toxic biocides was included in the content analysis of all comments received.

We have added a section to chapter I that clarifies the requirement and relationships of tools with various activities.

There are some activities where manual or prescribed fire are the only practical methods. On the other hand, there are certain tasks such as control of sprouting and certain competing weed species that herbicides are the only practical method. The management requirements and mitigation measures required on pages II-44 through II-66 are designed to minimize adverse effects of all methods including herbicides.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

- 2 Please see response to comments in Letter No. 22, Comment No. 1 and Letter No. 57, Comment No. 3.

FEB. 15, 1989

Dear Sirs,

I appreciate your sending me your DEIS on vegetation management. It is quite an impressive work, and while I spent 4 nights perusing it and my engineering background was a help with the graphs & data, I feel overwhelmed with the volume of the research involved and still somewhat unable to voice an educated analysis of it.

1 I suppose my initial reaction is that of the respondents you mentioned (pg I-6) who expressed concern over timber management and herbicide use. Aerial spraying, especially in such a wet climate as ours with streams and creeks everywhere, seems a method of last resort - not one to be incorporated into long term planning. The short history of man's ever increasing dependence on chemical killers is a sad, sorry tale. As we begin to understand the repercussions of this chemical fixation we see that this "solution" to pests is often if not always, a bigger long term problem. These chemical-caused problems range

Response to Comments in Letter No. 524

From: Peyton Covner

Comment No.

Response

- 1 Your concern about the use of herbicides and especially of aerial application has been included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

from algae growth choking the Ches. Bay to higher cancer rates every year nation-wide. Pesticides and herbicides show up in groundwater, on produce, in meat and even in mothers' milk! The FDA has not time nor funds to adequately protect us from all the new products ^{entering the market} every year. We must depend on the common sense - quite uncommon, really - of the user. Which is you. Which is why your obviously in-depth research heartens me. I sincerely hope you are as safety-minded and responsible as your book makes you appear. It's damned hard, however, to force workers to don rubber apparel in the hot sun or to wear heavy steel-toed boots on mountain terrain. Good luck to your supervisors. My personal outlook and methods tend more toward prevention and less on protection, and I urge you to avoid chemical quick-fix solutions everywhere you can. Especially aerial spraying and other such non-selective hard to control methods.

2

We agree that prevention should be the prime consideration. Please see management requirement number 3, page II-46 in the Draft EIS. This IPM process is incorporated into the site specific analysis.

Again, thank you for including me in your survey and for opening up input to the public.

Your task of preserving a non-mono culture forest and preventing erosion, disease, extinction and hundreds of other ills will become harder in the 90's as population increases, housing demands, etc. push you from all sides.

3 I will continue to use your books as good reference sources and hope that your proofreader was more faulty when he labeled the cattle on pg II-31 (and cover?) than when data-checking.

Sincerely,
T. Peyton Coyner

PEYTON COYNER
RT. 2, BOX 273
ASTON, VA 22004

3 The title label referenced has been corrected. Thank you.

Dear Sir:

- 1 " You choice of Alternative D in your DEIS doesn't seem to be a sound choice. At a time when we're trying to clean up our environment you are proposing to add more potholes to our life. You decision to increase herbicide use throughout the Southern Forest doesn't seem right. I might understand it in tree-planting situations but in our rugged areas of East Texas and N.C. it just doesn't make sense. I must admit I am in advocate for wilderness and a more primitive environment. I understand that your job is to grow trees but I feel that the substantial increase in herbicide use on our National Forest will be a mistake in the long run.
- 2

Thank you

Tom Battle

Rt 8 Box 434
Kingsport, TN 37664

Response to Comments in Letter No. 525

From: Tom Gatti

Comment No.

Response

- 1 Your concern about herbicides and opposition to their use has been included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS. Its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

- 2 Even though there will be slightly more acres treated by herbicides the mitigations required on pages II-44 through II-66 (more selective treatments, lowest risk herbicides, lower application rates, increased buffers, etc.) will greatly improve adverse environment risks when we are treating vegetation. We have added a section to chapter I in the Final EIS that clarifies relationship of tool choice with various activities.

Rd. 3, Box 825
 Clontville, TN 37617
 February 14, 1989

USDA Forest Service
 1720 Peachtree Rd., N.W.
 Atlanta, GA 30376

Dear Sirs/Madams:

I am writing to protest greater reliance on herbicides for vegetation management. I support low impact methods of plant control with less adverse environmental effects.

Please, in these days of seemingly vast, ecological changes do what you can to protect our forests, and to cherish and preserve them for the continuing benefit of humanity. It seems the least thing to fight fire with fire and herbs with other natural substances, natural as being the more basic, simpler method, such as manual labor, mechanical means, and fire and perhaps some that are not as easy, but more effective.

Sincerely,
 Sharon J. Dittlin

Response to Comments in Letter No. 526

From: Sharon Gitlin

Comment No.

Response

- 1 Your concern about herbicide use has been included in the content analysis of all comments received. We have added a section in chapter I that describes and clarifies how various tools are used with the activities addressed in the EIS.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Rt. 1, Box 108
Eidson, In., 37731
Feb. 14, 1989

USDA Forest Service

To Whom It May Concern:

I recommend that you adopt

- 1 Alternative B as to regards to Vegetation Management of Southern Appalachian National Forests because it will allow a more natural vegetation to flourish. Also relying on low impact methods should have less adverse effects on the environment. Our National Forests are among the few places where we can preserve & undisturbed ecosystems.

Sincerely,

Pat Chapman

Response to Comments in Letter No. 527

From: Pat Chapman

Comment No.

Response

- 1 The commenter's preference for alternative B was included in the content analysis of all comments received. Alternative B does have some of the favorable effects listed. It also has effects considered unfavorable by other commenters. Pages II-76 and II-83 of the Draft EIS summarizes the positive and negative effects of alternative B. More detailed summaries of impacts of each alternative begin on page IV-130 of the Draft EIS.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1. We think that the above approach will allow more natural vegetation to flourish and will permit the activities addressed in each of the Forests Land and Resource Management Plans to occur.

Georgia Department of Natural Resources

J. Leonard Ladbetter, Commissioner

205 Butler Street, S.E., Suite 1362, Atlanta, Georgia 30334

Leon Kirkland, Director, Game and Fish Division
404/866-3523

February 16, 1989

Mr. Steve McCorquodale, Team Leader
Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Rd., N.W.
Atlanta, Georgia 30367

Dear Mr. McCorquodale:

My staff has reviewed the Draft EIS for Vegetation in the Appalachian Mountains, and we would like to provide the following comments.

General

While the total area of land presently treated with herbicides as part of the U.S. Forest Service Southern Region vegetation management plan is a small fraction of the total forest area, a proposed increase of roughly 40% (9,659 acres) constitutes a significant change in herbicide usage. The introduction of aerial application of herbicides is also significant, and is likely to be controversial, as indicated in the DEIS.

Plants (including rare species) have evolved adaptations to a variety of stresses such as fire, grazing, and soil disturbance. Vegetation management programs that utilize mechanical, manual, and prescribed fire methods represent stresses that most non-target species can survive. These methods, when used judiciously, are generally safer with respect to non-target species than methods involving broadcast herbicides. Thus, an increase in overall herbicide use, and aerially-applied herbicides in particular, represents increased risks to rare plants (and potentially rare animals) on Forest Service lands.

Scientific Analysis

Throughout the DEIS, mention is made of the lack of information concerning the toxicity, mutagenic potential, and teratogenic potential of the various herbicides considered for use in the vegetation management plan. The following examples are illustrative:

"Evaluation of mutagenic potential is difficult. For some herbicides, no EPA-validated mutagenicity tests exist, or tests are insufficient to allow scientific conclusions." (p. IV-8)

"Knowledge of risk from burning fuels that have been treated with herbicides is incomplete." (p. IV-10)

"Some herbicides are broken down by plants. Limited information is available about the chemical breakdown products and their effects. . . . Herbicidal, toxicological, or biochemical properties are, as yet, virtually unreported." (p. IV-56)

"When assessing herbicide effects on wildlife, we face an overwhelming number of species with data gaps and inconsistencies in data." (p. IV-68)

Response to Comments in Letter No. 528

From: Leon Kirkland

Comment No.

Response

- 1 Please see the herbicide use mitigations in section II.E.2.c of the Final EIS. Many of these measures are designed to protect non-target organisms (both plants and animals) and several are designed specifically to protect threatened, endangered, proposed, and sensitive species. Also note that we are emphasizing selective rather than broadcast treatments (Final EIS page II-11) and lower application rates (page II-62; Item 4 in the Final EIS). Herbicide treatments are 90-100 percent selective in the general forest area, posing minimal risk to non-target plants.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

2 Given this significant lack of information about environmental impacts of herbicide use, it is puzzling that the Forest Service advocates increased use of broadcast herbicides. One "justification" for this policy that is presented in the DEIS is the high cost of performing the research necessary to fill in these data gaps:

"If all tests were performed, direct costs would be tens of millions of dollars. In addition, by delaying vegetation management indefinitely to complete testing, the public would suffer increased hazard from wildfire, and production of goods and services would be reduced (see analysis of the effects of Alternative A)." (p. IV-11; see also p. IV-69)

3 The statement above implies that the only other vegetation management option available is Alternative A, the "no-action" alternative, which will admittedly provide ineffectual vegetation management. However, effective vegetation management does not depend on use of herbicides, nor should the high cost of research related to environmental impacts of herbicides be used to justify a proposed increase in herbicide use.

4 Further, in the text it is stated that "there is a considerable amount of uncertainty in the toxicity data and methods used in the wildlife risk assessment. . . . Toxicity testing has been conducted on relatively few wildlife species, and the testing has been confined to a few avian and mammalian wildlife species." (p. 8-1) We agree with this statement, and find the wildlife risk assessment based on the laboratory surrogate species listed in Table 8-1 of dubious reliability.

5 Potential adverse effects of herbicide use are estimated for endangered, threatened, proposed, and sensitive animals in Appendix D. However, no equivalent assessment was made for endangered, threatened, proposed, and sensitive plants (see Tables D-1 through D-6). It is likely that some rare plants exist in areas that would be subject to treatment by broadcast herbicides; it is further possible that, despite diligent field searches, these plants will not be located prior to application of the herbicides. Based on this probability, and on the data presented for risks to rare animals in Appendix D, we cannot concur with the statement that the actions proposed in the preferred alternative are not likely to adversely affect any endangered, threatened, proposed, or sensitive species.

Management alternatives

6 From the information presented in the DEIS, it is difficult to understand why Alternative D was chosen. Alternative B is preferable in all categories of environmental impacts, including human health risks, risks to wildlife, risks to rare species, soil loss, water quality, risks to aquatic life, air quality, visual quality, and risks to cultural resources. In addition, Alternative B costs \$5.2 million less than Alternative D.

7 The primary factors cited in choosing Alternative D over Alternative B are lower indirect costs, a higher proportion of managed outputs, and higher employment opportunities in the field of vegetation management. It is stated that "indirect costs and opportunity costs are extremely difficult to quantify" (p. II-78). Yet, there is no mention of which methods of analysis were used to estimate these indirect costs. Some mention is made of reduced

- 2 Risk assessment, not economics, was used in an analysis of potential risk from herbicide use. Assessment of cost of obtaining data is required by 40 CFR 1502.22. Eight alternatives were evaluated and alternative D surfaced as the overall most appropriate alternative based on the analysis. In the Risk Assessment and EIS analyses, conservative assumptions were consistently made that deliberately overestimate potential adverse effects to account for data gaps. Alternative D (in the Draft) and Modified D (in the Final) each propose a decrease rather than an increase in broadcast herbicide treatments (see section II.B). The statement on page IV-11 explains why the EIS was not delayed, not why alternative D was preferred.
- 3 In the Final EIS, we've added a section to chapter I that clarifies tool uses and requirements for various activities. Management requirement numbers 1-4 on page IV-44-45 of the Draft EIS will be the basis for the appropriate method on each site. Each tool has its place when properly applied and some more effective than others. For example, herbicides may be the only effective tool for control of sprouting species or certain weeds, grasses, and woody competing vegetation. On the other hand, manual treatments may be the only practical method for creating coppice sprouting or for pruning plants. Also see our response to Letter No. 1.
- 4 Analogy as used in the wildlife risk assessment is a tool generally accepted by the scientific community in lieu of specific field or laboratory testing. The Risk Assessment was subjected to rigorous scientific review and has broad support.
- 5 Because herbicides are designed to affect or kill plants, an adverse effect is assumed and not needed in appendix D. The discussion on effects is found on pages IV-83-85 of the Draft EIS. The management requirement and mitigation measure that specifically addresses these species is found on page II-44. Other mitigations such as number 6 on page II-58 in the Draft EIS are required to reduce risk to non-target species. These mitigations reduce potential risks to threatened, endangered, proposed, and sensitive plants to minimal levels, especially since herbicide treatments in the general forest area must be 90-100 percent selective (Final EIS page II-11).
- 6 Your preference for alternative B was included in the content analysis of all comments received. Other important effects of alternative B are a significant reduction in employment and failure to meet goals of Forest Plans for providing a full array of habitats for wildlife and threatened and endangered species, protecting capital investments, and promoting forest health (Draft EIS, page II-79, II-80). The identification of a preferred alternative took into account all these factors. In addition, although alternative B is the environmentally preferable alternative, D through G all provide a high level of protection for soil, water and aquatic life, and air. All pose no serious risk to soil productivity, produce less than 1 percent of natural sediment yield from the national forests, and produce less than 1.5 percent of forest fire smoke in the Appalachians (Final EIS section IV.W). In fact, alternative B has negligible environmental advantages over alternatives D through G.

timber yields and payments to local governments resulting from Alternative B, but no estimates of this reduction are given in terms of dollars, or in percentage of total timber revenues. It is not clear whether the Forest Service has considered other possible indirect costs associated with Alternative D, including higher medical and insurance costs due to the increased health risks for herbicide workers and adjacent landowners, costs of lawsuits involving herbicide use, loss of tourism due to lower visual quality, and loss of potential residential development due to public concerns over herbicide use.

8

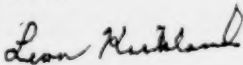
With regard to employment opportunities, it seems that the overall cost savings of Alternative B and the environmental factors mentioned above would vastly outweigh a reduction in employment opportunities in vegetation management. Is it a goal of the U.S. Forest Service to promote employment in the field of vegetation management?

In general, we prefer the management approach of Alternative B over that of Alternative D, but would suggest the following modifications to the former:

- 1) Allow low- to medium-disturbance mechanical methods where slope and soil conditions are suitable. If high-disturbance mechanical methods are included, these should be used only in areas where site conditions will result in minimal soil loss.
- 2) Allow more extensive use of prescribed fire, similar to that outlined in Alternative D.
- 3) While emphasis should be placed on highly-selective herbicide application methods, boom sprayers and granular spreaders could be allowed in areas where potential impacts to non-target species are minimal.

I hope these comments are useful to you. We appreciate the opportunity to review this draft EIS.

Sincerely,



Leon Kirkland

LK:jac

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS.

- 7 Public sentiment early in the scoping process called for a brief, qualitative treatment of economics, rather than the complex and sometimes cumbersome treatments typically done by the Forest Service in EIS's. Thus, the economic analysis does lack detail. There is an almost endless list of indirect costs and almost every one stirs debate. For example, the EIS presents data suggesting that highest medical and insurance costs would exist for manual not herbicide methods. Other conflicts exist, for example, in the area of lawsuits, particularly where mowing equipment is used along roadsides or the question of liability at the wildland-urban interface should a fire escape. These indirect costs, as well as many others, were considered only qualitatively in the analysis.
- 8 It is not a "goal" of the Forest Service to promote employment in the field of vegetation management, but as a public agency the Forest Service has an obligation to evaluate and to some degree control its impact on local communities. When scoping was conducted several commenters expressed interest in employment effects (chapter I, section F). Based on that interest, employment opportunities were evaluated for each alternative. A review of comments about the Draft EIS (volume III) indicates that employment is indeed an issue many people want to influence the selection of an alternative.

Alternative Modified D has many of the features you propose. It prohibits use of high-disturbance mechanical tools, increases use of prescribed fire, and requires that herbicide treatments in the general forest area be 90-100 percent selective (Final EIS section II.B). See also our response number 6 above.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV
343 COURTLAND STREET
ATLANTA, GEORGIA 30333

FEB 14 1981

4PM-EA/RJM

Mr. John E. Alcock
Regional Forester
U.S. Department of Agriculture
Forest Service
1720 Peachtree, N.W.
Atlanta, Georgia 30367

SUBJECT: Draft Environmental Impact Statement for Vegetation Management in
the Appalachian Mountains
EPA Log No.: D-APS-E85037-00

Dear Mr. Alcock:

The Environmental Protection Agency (EPA) pursuant to Section 102(2)(C) of the National Environmental Policy Act and Section 309 of the Clean Air Act has reviewed the Draft Environmental Impact Statement (DEIS) for Vegetation Management in the Appalachian Mountains of the Southeast. On the whole, we believe that this DEIS is a well written document evaluating alternative means of vegetation management and their resultant impacts. However, we would like to bring to your attention a number of concerns and issues regarding the preferred alternative which should be addressed further in the Final EIS (FEIS).

Herbicide Application

Generally, we are satisfied with the U.S. Forest Service's (FS) approach to the categorization of herbicides and inerts by their potential level of risks to human health and the environment. As recommended in the DEIS, those with the least predicted risks commensurate with their effectiveness should be used. Because of the ongoing EPA reviews, periodic updating of acceptable chemicals is very important. In addition, the FS will have to comply with individual state requirements for herbicide use and application.

1 Water Quality: The impact of herbicides on water quality is of primary concern. The preferred Alternative D, will increase the number of acres treated with herbicides from 24,621 to 34,280 acres, an increase of 26 percent. Additionally, Alternative D allows for the aerial application of herbicides, a practice which is currently suspended by the Chief of the Forest Service. The aerial applications would be used primarily for rights-of-way (ROW) maintenance. Of the 34,280 acres to be treated with herbicides, 900 are scheduled for aerial applications. Also of concern are the herbicides to be used. Herbicides which have a long half-life, high solubility in water, and low adsorption rates, are more likely to create water quality problems.

Response to Comments in Letter No. 529

From: Heinz J. Mueller

Comment No.

Response

- 1 As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1. Our models, field studies, and analyses (EIS section IV.G) all provide strong evidence that herbicide effects on surface and ground water quality will be minimal.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

-2-

We would like to offer the following suggestions to minimize the effects of herbicides on water quality.

- 2 * Herbicides should be selected which have short half-lives, low solubility in water, and high adsorption rates. All three characteristics are preferable, but not required. Certain herbicides (e.g., tebuthiuron) because of their nonselective characteristics and long half-life should be avoided.
- 3 * Note that page II-42, Table II-1 includes diesel fuel, kerosene, and limonene as chemical measures of control, but the discussion on pp II-28 (4. Herbicide methods) through II-41 fails to include any of these.
- 4 * Herbicides should only be applied under most favorable weather conditions (i.e., low winds, no precipitation forecast).
- 5 * Buffer zones should be strictly adhered to, particularly for aerial applications. The proposed 100-foot buffer from water sources for aerial applications and the 30-foot for ground applications may not be sufficient to address drift and accidental releases. Also, we have concerns about the observance of the proposed buffer areas adjacent to lakes and streams to minimize drift from aerial application of herbicides. What assurance is there that the contract applicators will mitigate drift by designating these buffer areas prior to spraying and by enforcing no spraying in these buffers?

- 6 Endangered Species: Endangered plant and animal species are very prevalent in the Appalachians. Section 7 of the Endangered Species Act prohibits any action carried out by a federal agency which threatens endangered species or their habitat. The use of herbicides in this area will require consultation with the Fish and Wildlife Service (US FWS) to identify habitats of endangered species. The use of 300-foot aerial or 60-foot ground application buffers may not provide adequate safeguards. Because certain herbicides appear to pose toxic risks even under normal broadcast rates, use of nonselective application should be avoided in sensitive areas. The site-specific environmental assessments should carefully weigh the potential species and habitat risks against any forest management benefits.

- 7 Endangered Animals: Some rationale should be provided for the selection of the three species selected for analysis of potential impact and why a freshwater aquatic invertebrate was not selected.

- 8 Worker Protection: EPA is proposing revisions to its "Worker Protection Standards for Agricultural Pesticides" (40 CFR Part 170). In this revision, EPA is identifying active ingredients in agricultural pesticides potentially subject to reentry restrictions under proposed regulation (40 CFR 156k). Many of the active ingredients to be used in this EIS are being considered at this time for restrictions.

- 2 We agree. Mitigation measure number 7 on page II-59 of the Draft EIS addresses this concern. In the Final EIS, class B and C herbicides, (EIS table II-1) require Regional Forester approval prior to use.
- 3 The discussion beginning on page II-28 and following deals with active ingredients only. Data for additives and inerts is simply summarized from appendix A.
- 4 We concur. Mitigation number 16 on page II-62 of the Draft EIS addresses this concern.
- 5 All our models, field studies, and analyses (EIS section IV.G) show conclusively that risk of herbicides polluting water bodies via drift or accidental direct application is negligible with the 30-foot buffer required in ground treatments. As stated in No. 1 above, buffers for aerial treatment have been widened to a minimum of 200 horizontal feet to provide extra protection in mountain terrain. EIS section IV.G.1 provides strong evidence that risk to water from drift and accidental direct application will be minimal, especially with the reduction in aerial herbicide treatments to a projected 400 acres per year out of 5.2 million acres of national forests in the Appalachians. Mitigations require all buffers to be clearly marked so they can be easily seen and avoided, so risk from human error is truly minimal.
- 6 The requirement for 300- and 60-foot buffers is based on predictions of drift and runoff modeled in the Risk Assessment (appendix A) and is consistent with proposed regulations issued by EPA concerning "forestry cluster" herbicides. As stated on page II-45 of the Draft EIS, the need for consultation with the Fish and Wildlife Service will be determined during site-specific analysis which is required. An individual analysis may result in restrictions that are more stringent than those required by the vegetation management EIS.

See decision process in figure D-1, appendix D.

- 7 The Risk Assessment (appendix A) used 19 terrestrial vertebrates, 12 aquatic vertebrates, and 4 aquatic invertebrates to predict risk of toxic effects to wildlife. These species were chosen to represent a broad range of taxonomic groups, food habits, habitat, and geographic occurrence to cover all species, whether endangered or not. Using this information and other available studies, risk to all threatened, endangered, proposed, or sensitive species is discussed in chapter IV and appendix D of the Draft and Final EIS.
- Endangered species are not used as surrogates for other endangered species in this analysis. The three chosen species were considered important to deal with in the overall analysis. Other endangered species would be analyzed on a site-specific basis.
- 8 We recognize that the EPA is currently working on several different projects which will directly bear on the mitigations imposed to protect workers, the public and the environment. As standards are finalized they will be included in this document or in additional documentation as appropriate.

-3-

9

Groundwater: As with Endangered Species, states will have their own groundwater strategies to keep agricultural chemicals out of groundwater. These plans may vary from state to state as to restrictions imposed on the use of certain chemicals. Therefore, the FS should coordinate their herbicide use with the individual State Plans to ensure compliance.

Inerts: EPA has an ongoing review of inerts and at this time there is no date for completion of the review. EPA considers inerts in List 1 or 2 to be priority chemicals with most of the attention focused on these chemicals.

10

Aerial Application: Because of the possibility of drift exposing non-target organisms to herbicides, specific sites, rates, and times should be addressed in the FEIS. Questions and concerns arise regarding the aerial application of herbicides as prescribed in Alternative D. Aerial applications to ROW's presents the highest risk for direct application to streams because the linear flight path crosses many streams. Because roads are highly conducive to ground treatments and the risk of accidental human exposure by aerial application is significant, they should be eliminated from consideration for aerial treatment. Other ROW's, e.g., gas and power lines, when crossing terrain which is unsuitable or difficult for ground application and/or other methods, may be acceptable for aerial application. However, aerial applications should be viewed as a "last-resort" type of action and then only under the most controlled conditions, such as:

11

- ° Herbicides with long persistence periods should not be applied to areas which would then be susceptible to high levels of erosion.

12

- ° Herbicides with long half-lives should not be used in aquifer recharge zones.

13

Risk Assessment: Our review did not reveal where Appendix A includes any analysis of specific risk to non-target vegetation. Chronic exposures and impacts are limited to aquatic systems.

14

Appendix A does include some discussion on drift from herbicide spraying, on page 4-19ff. The Appendix states that drift is not expected to be a problem. However, it is stated that the spray system to be used is not one that will be used in Region 8, but is one "... expected to cause greater drift than spray systems typically employed..." This is an assumption apparently based upon judgement, but without any scientific grounding. For this reason, we believe the discussion on drift should be reexamined to ensure that the impacts are adequately addressed in the FEIS.

15

The discussion on 4-28ff is devoted to what presumably is acceptable levels of residues. Though the risk appears to be low, the whole discussion is based upon the assumption that residues are in fact acceptable. This may not be universally true. Factors such as ecological sensitivity and succession should play a role. In addition, residues are inextricably

- 9 Coordination with States to ensure compliance with their ground water strategies is required by mitigation number 28 on page II-64 of the Draft EIS
- 10 Mitigation measure number 5 on page II-58 of the Draft EIS contains the following statement: "Application rate and work time will not exceed those shown as typical (tables 4-4 through 4-6, appendix A) unless a supplementary assessment of risk establishes that proposed rates will not cause unacceptable risk...." Mitigation measure number 8 broadly addresses the timing concern; however, site specific analysis is inappropriate in a programmatic document. Tables in the description of alternatives (EIS section II.B) indicate which ROR's may be aerially treated, and roads are excluded in all alternatives. Also, criteria for aerial application for utility rights-of-way only has been restricted to steep, uninhabited areas where other methods are not practical.
- 11 This concern is addressed by mitigation number 29 in Draft EIS page II-64, which has been strengthened in the Final EIS.
- 12 This concern is also addressed by mitigation number 29.
- 13 Impacts of herbicides on plants is dealt with in chapter IV, part C, not in the Risk Assessment. The Risk Assessment deals primarily with human and wildlife health issues.
- 14 The spray system analyzed for the aerial spraying case was the Microfoil boom, which is one of the types of equipment that the Forest Service plans to use in Region 8. For the ground spraying case, results were presented for two different types of equipment to show the range of possible drift deposition. The 8003 nozzle in question is not normally used in this Region, but it was analyzed in the Risk Assessment because (1) it is one of few nozzles that have been carefully field tested by spray deposition and air filtration sampling, and (2) it provides a good worst-case example since it produces much smaller droplets than any nozzles we will use.
- 15 No assumption was made that residues in ground water would be acceptable, but the analysis shows the magnitude of residues that could occur in soil and ground water under treated areas. Three different methods were used to examine potential movement of herbicides to ground water based on data for the herbicides on adsorption and half-life. We have used the best information available to us. Specific data on these properties were available for all of the herbicides except for the adsorption of 2,4-DP. In this case, we have used the adsorption data for the closely related compound, 2,4-D. It is true that these data are not "certain" and that the behavior of the compounds can be expected to vary somewhat from site to site. In spite of all this, we feel that the overall picture shown by the analysis is clear. Only very large changes in the data could change the conclusions.
- We can't say precisely what the adsorption and degradation of 2,4-D will be on a specific site, but the literature on 2,4-D residues, properties, and movement in the environment is extensive. The values that we chose for our parameters are quite realistic based on the information available, and we deliberately chose values of herbicide, climate, and soil properties that would overestimate leaching potential for each herbicide. In field tests in agricultural areas where applications are much more frequent and application rates higher than in forestry uses, 2,4-D has rarely been found, and then only in trace amounts (e.g., U. S. Office of Groundwater Protection, State Program Briefs: Pesticides in Groundwater, 1986).

-4-

linked to half-life in any particular system. Half-life figures are less than certain, as demonstrated by footnote 'a' in Table 4-9 where dissipation is assumed to be equal to degradation. It notes that half-life is often based upon field dissipation and is substituted for actual degradation. In addition, according to footnote 'b' field dissipation is further constrained where "(f)ractions could not be calculated for chemicals where either (the adsorption coefficient) or the half-life was not available." In our opinion, the information on half-life and soil adsorption/dissipation is too weak to be used for making decision. Even under the extreme conditions used in the discussion on page 4-28, soil adsorption is used, but the coefficients are not available for all cases.

The discussion on page 4-32 regarding 2,4-D is a case in point. This compound moves rapidly through soil resulting in the conclusion from the simulation, based upon limited conditions, that concentrations are reduced before reaching an aquifer. As the text states, this model is a general simulation that should not be used to extrapolate to specific conditions for any single program, which is dependent upon the compound and situation under consideration. Therefore, it would appear that this methodology is too constrained for making confident site-specific decisions.

Water Quality

The impacts on water quality from sediment produced by vegetation management activities is a major concern. The management direction away from the use of intensive mechanical techniques, e.g., root raking, etc., which is evident in this DEIS is highly desirable because of the consequent reduction of erosion/siltation. The resultant decrease in sediment load from the existing levels of 1,700 tons are predicted for both Alt. D., 1,080 tons and Alt. E, 490 tons. This is due in part also to a lower number of acres receiving mechanical treatment.

We would like to offer these suggestions to further minimize the effects of sediment on water quality:

- 16 • Controlled burns should be conducted in such a manner so as to be classified as "low" in severity of burn. Intensive slash burns may, for instance, increase the sediment load by 200 percent. The acceptable frequency of low level burns appears to be a function of soil and localized site conditions.
- 17 • Buffer Zones or Streamside Management Zones should be established and maintained around all surface water bodies, and perennial, intermittent and ephemeral streams to avoid streambank erosion. Site-specific conditions, i.e., soil, slopes, drainage patterns, etc., should be examined to determine acceptable practices.
- 18 • Streams should not be utilized for firebreaks.

Field studies (Draft EIS volume II, appendix C, pages 17-19) and our EIS analysis (section IV.G) support the conclusions in the Risk Assessment models that risk to ground water quality from applying our Class A herbicides at the low rates and frequencies required by our mitigations (Draft EIS pages II-58 and II-59) is minimal.

- 16 Light burns just scorch litter and expose almost no soil. Moderate burns char litter and duff and expose little soil. Both pose minimal risk to water quality (pages IV-108-109 of the Draft EIS). Severe burns are not permitted in the preferred alternative in the Final EIS.
- 17 Such buffers are required as is site specific analysis. See pages II-44, II-47, II-54, II-57, and II-64 in the Draft EIS.
- 18 Streams may be used as firebreaks only if low-intensity fires with flame lengths of less than 2 feet are backed into the filter strip (mitigation measure number 11 on page II-54 of the Draft EIS). Such fires retain good ground cover and do not kill roots of woody understory plants that stabilize banks. In most cases, the sediment impact of this practice is far less than building a fireline that exposes mineral soil within the filter strip.

-5-

- 19 • Best Management Practices should be used to control sediment from all road building activities and harvesting operations. The cumulative impact analysis demonstrates the large contribution of roads to the sediment yield. (The assumption that new timber roads because of their temporary nature erode for only one year is questionable).
- 20 • Livestock grazing should be managed so as to prevent access by livestock to stream channels, and banks and riparian zones. Also, contract provisions to prevent overgrazing should be properly enforced. (In some states, 20-30 years of continuous overgrazing has increased sediment yield by 10-26 times above moderate rotational grazing).

Wetlands

- 21 Vegetative management has been used in the past to reduce competition or alter the stand composition by forest managers. This has resulted in a reduction in wetland acreage through vegetative change or direct conversion of wetlands to upland sites. The conversion of wetlands is a major concern of EPA in both cases and the FEIS should address the potential impacts these changes have on wetlands, wildlife, and water quality. These assessments should be done for each alternative; however, the mechanical methods should receive the greatest effort. This recommendation is based on the fact that mechanical treatments result in the movement of dredge and fill material into the wetland during site preparation, thus altering the hydrology of the site and dominant vegetative species. Also, we would like to see a commitment made to wetland protection and to no conversion of wetlands. We desire to work with FS to develop Best Management Practices to minimize wetland disturbances from vegetative management activities.

Air Quality

- 22 We understand that prescribed burns are an important tool for vegetation management. Based on the information provided we are reasonably assured that Alternative D as well as other alternatives such as Alternatives E and F will meet national ambient air quality standards. However, localized factors and weather conditions will have to be considered in timing and management of prescribed burns. In addition, state requirements will have to be met and appropriate permits obtained.

Based on the DEIS, periodic low-intensity burns can reduce the risk of destructive wild fires without depleting the soil of nutrients. However, frequent and/or intensive burns result in extensive nutrient loss and increased water and air quality impacts.

Alternatives

The DEIS has delineated a series of management alternatives which entail a varying mix of available methods and tools. Treatment acreage also ranges among alternatives from 0 acres for Alternative A to 173,169 acres

- 19 Roads and timber harvest are outside the EIS's scope. BMP's for such actions are included in Forest Land and Resource Management Plans. Most timber access roads are open for only one season and are stabilized, revegetated, and closed promptly after use stops.
- 20 We agree that mitigation measures are needed to protect soil, water, and vegetation resources when grazing is used as a biological control. In the Draft EIS, on page II-65, mitigation measures 1, 2, 3, and 4 specifically address this concern and prevent overgrazing of mountain balds.
- 21 Mitigation measures require buffers around wetlands and prohibit deposition of soil and debris in them (pages II-54 and II-57 in the Draft EIS). These mitigation measures also control sediment and protect wetlands from upstream actions. Effects are analyzed in chapter IV, section IV-G (water) in the Draft EIS. Vegetation management will not reduce wetland acreage, and conversion is outside the scope of the EIS.
- 22 Mitigation measures 1 and 14 (Draft EIS pages II-52 and II-55), strengthened in the Final EIS, require coordination with states and consideration of fuel and weather factors to limit smoke output and control smoke effects. The preferred alternative in the Final EIS does not allow severe slash burns, or underburns more often than every 4 years except in habitat for red cockaded woodpecker or to meet other specific needs.

-6-

for Alternative H. These varying levels and combination of treatment methods result in different management benefits and degrees of potential adverse environmental impacts.

23

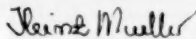
Based on the FS overall management objectives, we can understand its preference for Alternative D as a balance between timber production and other resource needs. Alternative D by de-emphasizing intensive mechanical techniques is predicted to result in lower soil disturbance and thus in a much lower sediment load than Alternative C, existing operations. However, Alternative D, would offset these environmental gains by increased use of herbicides, including the allowance of aerial application. Use of herbicides, particularly aerial and mechanical broadcast methods would result in somewhat higher risks to the public, applicators and endangered and non-target species. Therefore, from an environmental perspective, Alternative E or F would be environmentally preferable while still providing the FS with reasonable levels of management options. Alternative E is predicted to result in less than one-half of the sediment production and two-thirds of the air pollutant load as the preferred alternative, while, at the same time, decreasing the reliance on herbicide use (approximately one-half of the current and one-third of the preferred alternative treated acreage) with a continued prohibition against the use of aerial methods. Alternative F, which would not allow use of herbicides, is predicted to result in reduced levels of sediment production over the existing and preferred alternatives while only resulting in a minor increase in air pollutants. On balance then, Alternative E or F, because of their use of less intensive management tools without the risks of accidental application to water bodies and non-target species from aerial applications, would be the more prudent options.

Conclusion

Based on the foregoing concerns with the potential impacts of herbicide use on water quality and non-target species, we rate the preferred action EC-2, environmental concerns have been identified which should be addressed in the FEIS. Because of the evolving nature of groundwater protection and endangered species guidelines, we believe, it is important for a process to be established for ongoing consultation with the states, EPA and the U.S. Fish and Wildlife Service to ensure the regulatory consistency of the selected management measures. Also, site-specific assessments should be prepared with the active involvement of state and federal agencies prior to initiating action in sensitive water and habitat resource areas.

We appreciate the opportunity of commenting on this important Forest Service action. If you have any questions concerning our comments, or would like to meet to discuss EPA's concerns, please call me at 404/347-3776.

Sincerely yours,



Heinz J. Mueller, Acting Chief
NEPA Review Staff
Environmental Assessment Branch

cc: USFWS, Atlanta Region

The commenter's preference for alternatives E or F was included in the content analysis of all comments received. Each alternative has favorable and unfavorable effects. Alternatives E or F, despite the effects listed as positive by EPA, have effects such as not meeting output objectives of Forest Land and Resource Management Plans, and the use of less effective tools and treatments on many areas.

See our response to your Comment No. 1. Differences between alternatives D, E, F, and Modified D in effects on water and air quality are inconsequential (Final EIS section IV.N). All of them produce less than 0.5 percent of natural sediment yield from the national forests and less than 1.5 percent of forest fire smoke produced in the Appalachians. EIS sections IV.G and IV.N show that risk to water quality from herbicide use in alternative Modified D will be minimal, due mostly to the required mitigations (EIS section II.E.2.c) and the very small size of the aerial herbicide program.

16 Feb 89

USDA Forest Service, VMT
Room 362 South
1720 Peachtree Road NW
Atlanta, GA 30367-9102

To: The USDA Forest Service

I have just read the Asheville Citizen paper dated 15 Feb89 and I am much disturbed by the plans of continuing to use HERBICIDES for foliage, plants etc. Frankly I did not know that such was already being done.

I urge you and all involved to cease this practice. There are legitimate reasons for this...

1

1. The long term effect is unknown on use of herbicides.

2

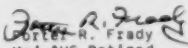
2. The short term is already known...for those who breathe the mist, etc exposed parts of the body etc.

3. We have a responsibility to ourselves and the future health of mankind to keep our environment, rivers etc clean and not contaminated!

We have enough of contamination problems caused just by such use as you are making of chemicals that it is causing taxpayers plenty to cleanup, educate, & monitor for such detrimental liquids, sprays, not to even mention the damage to the health of individuals.

Again, please consider the above and reconsider your plans and void them...use manpower to clean up...the young and unemployed need the work...this I do not mind paying for.

SINCERELY,


Walter H. Frady
Maj AUS Retired
101 Hawthorne Ave
Swannanoa, N. C. 28778

CC: Congressman James Clarke

PS: I know I speak also for my wife, Barbara, however she is at work and I need to get this letter to you ASAP.

Response to Comments in Letter No. 530

From: Porter R. Frady

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.
- 2 Based on the information disclosed in this EIS, the rate of environmental degradation of the herbicides evaluated is very rapid. Long term persistence is not expected when these herbicides are used according to the mitigation measures required in chapter II, pages II-58 to II-65 of the Draft EIS. None of the class A herbicides have a half-life greater than 65 days. Thus, the herbicide will be virtually degraded within one year.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Mon Feb. 20, 1989

USDA Forest Service, VMT
Rm. 362 South
1720 Peachtree Rd. N.W.
Atlanta, Ga. 30367-9102

To Whom it May Concern:

1

Please reconsider your plans to increase the use of herbicides on National forest land in the Appalachians. I am concerned about the welfare of the wildlife in the area, as well as, the future of our children. I cannot bear the thought of herbicides' seepage into the ground and water.

I implore you to demonstrate a social conscience responsible to the members of all ecosystems. You are in a position of power that can set the trends for the future. You must consider alternative methods of management for vegetation overgrowth.

I am well aware that comments were supposed to be received by Feb. 17, 1989. But it is never too late to consider alternatives and make responsible decisions for the state of the future.

Sincerely,
Mrs. Jenni A. Baum

Response to Comments in Letter No. 531

From: Ms. Jerri A. Berry

Comment No.

Response

- 1 Your opposition to herbicide use was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

1 Why?

I have no education in this area or management and will let the experts answer.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Erin M. Murrain
 Name First MI Last (Organization)
Ms. Linda Brien
 Street
Quinton North Carolina 28158
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 532

From: Vivian F. Abernathy

Comment No.

Response

1 Comment noted.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: The USFS's analysis procedures

and detail has much improved over the past!! The herbicide section was given alot of attention - which it should. Not sure that adverse affects to the USFS's & other Forest Community's

1 **Why?** public image was addressed adequately in the analysis of the Alternatives and combinations there of. - Whether or not an practice or activity is economical or sound forestry practice is surpressed by public opinion, if it is has the public label of being negative or harmful - thus Future USFS & other For. activities restricted.

Comments on Alternatives:

Yes, the Alternatives responds to most of my concerns. - re- above.

For the most part I agree with the selection of Alternative (D);

however, in my opinion a combination of C & D is the most desirable.

Alt. (C) uses too much mechanical methods with high soil disturbance.

2 **Why?** As an licensed Herbicide applicator & Forester I understand the role of it; however, sprayed roadside veg. has a high negative public opinion. I support Aerial application of herbicide to remote utility lines, but more manual cutting - control for wildlife hab.,

Other: balds, trails, recreation signs, USFS roads & hdw site prep.

This negates the negative effect, provides few more jobs, provides more deer browse & some other wildlife food & habitat and lessens

Why? the likelihood of chemical toxicity to humans and the environment.

The direct cost of chemical verse manual or mechanical- chemical is almost always cheaper, but is it considering all factors, public opinion, environment, habitat & food creation, jobs & etc. Yes, use chemicals, but consider all factors. ^{use additional sheets as necessary} P.S. Good Job

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Robert W. Smith Jr., ACV

Name: First MI Last (Organization)

Et. 4, Box 363

Street

Lexington Va. 24450

City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 533

From: Robert W. Smith, Jr.

Comment No.

Response

- 1 We agree that the Forest Service's public image is an important factor in our future. During the process, many of the public issues were raised and addressed in the EIS and resulted in considerable new emphasis and direction in carrying out vegetation management activities. By following the mitigation measures listed in chapter II of the Final EIS, it is our objective to promote a positive and responsible image.
- 2 Your preference for a combination of elements in alternatives C and Alternative D was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

← Tear at perforation

RESPONSE FORM

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However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1 Comments on Scientific Analysis: Certainly the analysis is adequate.
Perhaps it is too wordy and overblown, but surely complete.

Why? There is too much detail to be digested by the layman.

I am sure there is much here for the forester, the timber industry, the farmer, and most of all those interested in air and water quality. I would say that is clearly prepared by professionals for professionals.

Comments on Alternatives:

2 Alternative D. is the most productive and satisfactory method with reasonable risks and drawbacks.

I have no complaint with Alternative C.

Why? Professionals in their field are not infallible and sometimes in error. But I believe that they are far more competent than the layman and their critics.

Other: It is a shame that you cannot get on with the management of the forests to the best of your ability. I cannot believe that any forest manager would act without considering the impact.

Why? Is it necessary to spend so much time and effort compiling studies and justifying them?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Gilbert		Davidson	
Name: First	MI	Last	(Organization)
Rt. 1, Box 366			
Street			
Edinburg, Va.		22824	
City	State	Zip Code	

← Tear at perforation

Response to Comments in Letter No. 534

From: Gilbert Davidson

Comment No.

Response

- 1 The interdisciplinary team views its writing assignment as equal in importance to the analysis. Good communications is a top priority. While many reviewers commented that this very complex technical subject has been handled very well, some may still find it overly complex. The summaries on pages iii through xvi of the Draft EIS attempt to address this problem.
- 2 Your preference for alternative C or D was included in the content analysis of all comments received.

However, note that as a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

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However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

1 I favor alternative 7 because 0 ~~of~~ herbicides are used.

Why?

2 I have seen the damage and long-range effect of pesticides in areas in Florida. I have read and know of the heavy herbicides used in Viet Nam.

Other: Even under maximum control, species are eliminated in treated areas and unknown damage is often done to humans as well as animals. It is not until

Why? many years later that the true impact can be determined on the human organ systems.

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Resp. H. Morales (citizen)

Name	First	Middle	Last	(Organization)
Mr.	H.	B.	M.	128 D
Street				
Sylvan, NC 28775				
City		State	Zip Code	

Tear at perforation

Response to Comments in Letter No. 535

From: Rose M. Morales

Comment No.

Response

- 1 Your preference for alternative F was included in the content analysis of all comments received. Also see response to comments in Letter No. 522, Comment No. 1.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Please review some of the literature discussed in response to comments in Letter No. 169, Comment No. 2. Data in these articles do not support the general opinion that herbicides have caused the problems cited because of the selection of herbicides, lower application rates, selective application techniques, and protection of non-target species.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.

Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I would like for some of my questions to be answered too.

1

1. When the loggers have finished, they leave beautiful straight young trees, - cherry, hickory, oak, etc. why do you send crews to cut this 6 inch and up, to the ground to rot? Why do you not use these experienced men to do the rest of the labor? Wouldn't the shade from these good trees that are already growing provide shade enough to help young sprouts from getting too big?

Why?

2

2. Fire can be used, but on a very controlled basis, bug infested, diseased areas but not for waste, just to get rid of young trees.

Comments on Alternatives:

3

Let's stay away from all poisons! Maybe we would have a few good trees, but how about our wildlife, not to speak about humans!

4

Are you sure you have done an adequate scientific analysis?

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Annie Dee L. Smith
 Name: First MI Last (Organization)
221 Dusky Creek Rd
 Street
Franklin North Carolina 28734
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 536

From: Annie Dee L. Smith

Comment No.

Response

- 1 Without knowing the specific objective for the site to which you refer, we can only assume that the species to be regenerated on that site was shade intolerant or perhaps the reason the remaining trees were felled was to create hardwood stump sprouts along with sprouts of seed origin to regenerate the a hardwood stand. Also in situations that require all trees removed there may be a lack of small roundwood market to remove these trees.
- 2 Fire is a natural part of the environment in many areas of the Appalachian Mountains. As stated on page II-20 of the Draft EIS, and also in Appendix B and E prescribed fire is used to reduce hazardous fuels, prepare sites for seeding or planting, rejuvenate wildlife forage species, maintain fire-dependent species and ecosystems, control insects and diseases, maintain mountaintop balds, and manage wilderness and threatened and endangered species and their habitat.
- 3 Your opposition to poisons was included in the content analysis of all comments received. However, evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 4 We believe the scientific analysis exceeds being just adequate to support future decisions about vegetation management in the study area and will serve as a source of information for field personnel doing site-specific analysis as required on page II-44 of the Draft EIS.

Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: *Very thorough, very good job*

Why?

1 Comments on Alternatives: *Favor alternative D, but with addition of allowing aerial spray release of pine (in our area - white pine) using Roundup (Glyphosate). (Use newspaper with micro-film beam)*

Why? *This method is very cost efficient and effective. Glyphosate is one of safest and least impacting chemicals on the environment. Is particularly safe with regard to groundwater protection, a major issue these days. Aerial spray results in the least human exposures if proper precautions are taken.*

Other: *Roundup doesn't kill everything - much hardwood capable of most production for wildlife survives.*

Why? *I like alternative D because it emphasizes practical methods with little ground-disturbing activities. Consider also allowing use of mist blowing using Glyphosate to control brush on road rights-of-way. (Safe - much more efficient than cutting, and controls layer.)*

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Donald D. Spiller, Jr. USFS

Name: First MI Last (Organization)

1625 W. Lee Highway

Street

Waynesville Va. 24382

City

State

Zip Code

Tear at perforation

Response to Comments in Letter No. 537

From: Donald D. Spiller, Jr. _____

Comment No. _____

Response _____

- 1 Your preference for alternative D and for the use of glyphosate and low disturbance tools was included in the content analysis of all comments received.

However, note that as a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Tear at perforation

RESPONSE FORM

2/14/69

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.

Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1

Why?

I strongly urge the use of the following order of preference for vegetation management in our Appalachian f.t.s.:

1. Manual & animal-grazing wherever possible
2. Mechanical, on an environmental sound and carefully selective basis
3. Prescribed fire where advisable & under carefully controlled conditions
4. Herbicides only where absolutely necessary (ie. in inaccessible terrain) and under carefully controlled & limiting conditions.

Comments on Alternatives:

(I understand this is basically what the public opinion survey of mid-1967 indicated the public wants.)

Why?

1. For protection of our priceless environment for people and animals and birds

Other:

2. I believe such a policy, well-implemented by our Forest Service experts, would also create many semi-skilled jobs for the mountain areas, where unemployment and under-employment is such a serious and growing problem.

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Elizabeth S. Formwalt

Elizabeth S. Formwalt - W C Alliance

Name: First MI Last (Organization)
F.O. Box 1296

Street
Franklin, N.C. 28734

City State Zip Code

Tear at perforation

Response to Comments in Letter No. 53B

From: Elizabeth S. Formwalt

Comment No.

Response

- 1 Your preferred order of method use was included in the content analysis of all comments received. The effects of each are described in chapter IV. We have added a section to chapter I to help readers understand how tools are used for each activity and purpose. Also, please see the mitigation measures on page II-43-65 of the Draft EIS that are directed at achieving some of the effects you mentioned in your preferences.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

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However you decide to respond, please help us by making specific and meaningful comments.

Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1

Comments on Scientific Analysis: I do not have the knowledge or experience to make recommendations on the draft release on Vegetative Management, but I am aesthetically offended by the practice of clear cutting when harvesting timber.

Why?

I believe that selective cutting is a much better way to harvest timber.

Comments on Alternatives:

Why?

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

FRED A. ZIMMERMAN
 Name: First MI Last (Organization)
S. A. BOX 87A
 Street
AGUICNE, N.C. 28763
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 539

From: Fred A. Zimmerman

Comment No.

Response

-
- | | |
|---|--|
| 1 | The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest. Please see page 1-3, Need for Action and Scope of Decisions. |
|---|--|

Tear at perforation

Comment on DEIS: Vegetation management in the Appalachian Mts.
RESPONSE FORM (VOL. 162)

Feb 15, 1989

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
 Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis: Certainly a most thorough and exhaustive analysis.

I question some of the conclusions, however, when "scientific uncertainty" and "data gaps" exist. I was disappointed to find that "Dow Chemical test results caused a substantial revision of risk assessment." (pg. VI-4) Is this the same company that why spent ten years in court fighting over the effects of dioxin before finally settling the dispute out of court?? Exclusions in the risk assessment of the "long-term persistence in the food chain and subsequent toxic effects." because these herbicides show no tendency to bioaccumulate." (pg. 8-2) seems suspect. Why as of 3/88 did only 700 come in from 13,000 notifications? I believe it is the technical language of ambiguous scientific jargon that dissuades people from responding.

Comments on Alternatives:

I favor alternative B. I oppose the use of herbicides as a management tool. Conclusions 2,3, and 4 of appendix C, "Effect of herbicides on soil productivity and water quality" (pg. C-20), are misleading and possibly incorrect. "Long-term water quality can be improved by herbicide use since stream sedimentation is reduced."— is certainly a misleading conclusion. In appendix D, the potential effects of vegetation management (in the absence of mitigating measures) Why? on animal and plant species, only herbicides get a toxic "I" rating. Are not there already enough toxins in our environment? Do we have to worry about mitigating measures beside scientific uncertainties? Alternative "B" is my preference, with alternative "A", my second choice.

Other: While Vols. 162 of the DEIS for Vegetation Management in the Appalachian Mountains is very informative, I consider the focal point, herbicide use, entirely too narrow: PM levels effect the degradation of these herbicides, yet acid rain is unrelated: (I-7) A proper management plan should concentrate more on protecting and understanding the synergistic and symbiotic relationship that exists in the Appalachian Mts. rather than promoting the use of chemical herbicides. I find it ironic that vegetation management planning should be involved with herbicides at all!

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

John D. Cunningham
 Name: First MI Last (Organization)
 Dr. J. D. Cunningham
 Street
 Dulles Hwy. No. 22830
 City State Zip Code

Tear at perforation

Response to Comments in Letter No. 540

From: John D. Cunningham

Comment No.

Response

- 1 Data were obtained from all sources to ensure the most complete analysis possible. Data from manufacturers generally has been reviewed by EPA and our analysis was reviewed by the extensive list of people with a variety of qualifications, in chapter V. See also response to comments in Letter No. 480, Comment No. 2; and articles referenced in Letter No. 169, Comment No. 2.
- 2 The level of response was reasonable. No technical information was involved, only a request that public concerns be sent in related to vegetation management.
- 3 Your preference for alternative B was included in the content analysis of all comments received. Also please see response to comments in Letter No. 261, Comment No. 2.
- 4 Taken in context, this sentence accurately states that herbicide use results in less sediment production than some other vegetation management methods like mechanical.
- 5 The specific reason for mitigation is to prevent "T" ratings.
- 6 The use of "focal point" refers to public comment not analytic process. All tools were given equal emphasis within the analytic process. However, we expanded chapter I in the Final EIS to better clarify the need for vegetation management and relationship of tools and methods with the various activities. Also please see response to comments in Letter No. 1.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I don't know what you mean by this. I don't find a "scientific analysis"

Why?

This is a discussion of various "technologies"

Comments on Alternatives: "F"

If I must choose between these. These southern forests should be used for recreation and preserved in as primitive state as possible.

Why? Because there is less herbicides used and less damage to the soil

Other: B. is a ^{very} good alternative.

Why? Fewer acres treated, favors primitive forest setting, manual tools & low intensity mechanical tools minimizes soil damage. You don't have the manpower or money to do either of the alternatives I suggest (use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Thanks for sending these reports.
CALS

Clifford M. STAMPER, Sr.
Name: First MI Last (Organization)
Rt 2 West Union St
Street
Hargraves N.S 28655
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 541

From: Clifford M. Stamper

Comment No.

Response

- 1 Your preference for alternative F was included in the content analysis of all comments received. Please see response to comments in Letter No. 522, Comment No. 1.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1 and Letter No. 560.

Dear Forest Santa -

1

~~STOP~~ spraying herbicides in our
National Forests... both ground and
aerial. STOP now & forever.

²⁵
Sincerely,
²⁵
J.C. Taylor
R.R. Speck

PO Box 2193
Asheville NC 28802

Response to Comments in Letter No. 543

From: G. C. Taylor/R. R. Speck

Comment No.

Response

- 1 Your opposition to use of herbicides was included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1 and Letter No. 560.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

1

Your report indicates that tremendous data gaps still exist about our knowledge as to "reasonable significant adverse human health effects."

Why?

The ecological balance of the world is in jeopardy. We should be very conservative in our monkeying with it until we know more about the results of our current and past (mis)use.

Comments on Alternatives:

2

I do not like the alternatives presented because none of them offer to my satisfaction a small enough percentage of fire and herbicide usage. I prefer very little use of herbicides - no more than 10%, and not as much use of fire. Alternatives "E, F, AND G", play games with those two categories. Why? Use manual and mechanical in the 45% range each.

For herbicides, cf. above top comment.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Francis X. Reese

Fr. Francis X. Reese, S.J.

Name: First MI Last (Organization)

108 Chestnut St. (P.O. B. 947)

Street

Mars Hill, N.C. 28754

City

State

Zip Code

← Tear at perforation

Response to Comments in Letter No. 544

From: Francis X. Reese, S. J.

Comment No.	Response
-------------	----------

- | | |
|---|--|
| 1 | While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative (health and safety protecting) assumptions to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field. |
|---|--|

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

- | | |
|---|--|
| 2 | We considered an alternative very similar to this in the Final EIS but found it was not implementable because proposed mix of methods would not permit hazardous fuels and wildlife habitat to be treated sufficiently with prescribed fire. |
|---|--|

Please see response to comments in Letter No. 166, Comment No. 3.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though. However you decide to respond, please help us by making specific and meaningful comments. Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Scientific analysis has gone as far as is practical when dealing with such a complex natural system with countless variables and virtually no chance of meaningful isolation of variables. It has been shown that in "scientific" analysis, the observer tends to find what he looks for; true objectivity does not exist.

Why?

Comments on Alternatives: None of the alternatives takes the position of preserving and enhancing the land and its life. Such an alternative would be the preference of myself and my friends. Alternative D concentrates on destructive means to exploit trees for timber. Alternative B is closer to my preference than the others: it calls for less vegetation management, less herbicide and fire use and greater environmental safety.

1 Why?

Other: see attached letter

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Name: E. Whitefield
 Name: First MI Last (Organization)
St. 1, Box 272
 Street
Hot Springs, NC 28740
 City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 545

From: Anne E. Whitfield

Comment No.

Response

- 1 Your preference for alternative B was included in the content analysis of all comments received.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

Rt. 1, Box 27A
Hot Springs, NC 28743
February 14, 1989

USDA Forest Service
1720 Peachtree RD., N.W.
Atlanta, GA 30367

Dear Forest Service,

2 My comments will be focused first on the Draft Environmental Impact Statement itself and then on the underlying assumptions. I appreciate receiving it with plenty of time for study and appreciate the efforts made in making a large amount of information organized and understandable. It was helpful to have the graphs and charts. I wish there had been more maps. Figure III-1 on page III-2 was missing. The map on IV-112 does not indicate the three different boundaries well. It would have saved time if reference to tables and charts was made by page number. The glossary was generally helpful but could have been more inclusive. For example, I did not find "CEQ" (page IV-92 and IV-116) defined. Nor did I understand just what was referred to by "hard mast".

The beginning summary was helpful but I wish it had included a general description of the species of wildlife in the section on Affected Environment. There were tables III-4, 5, and 6 which listed representative species of herbs, shrubs and vines, and trees, but these tables were merely incidental to the text and far from indicating the great variety of native plants and animals in the Appalachian Mountains. I believe it would be appropriate to consider the characteristics of the more common plants and animals and to have pictures of them. The use of pictures and photos in this statement is appreciated, but none of them is captioned except the mechanical tools on page II-26.

It is my opinion that native species should be encouraged and protected in their natural environment primarily by the exclusion of human management. Of the 5,200,000 acres of national forests in the Appalachian Mountains, only 745,883 are not managed at present; 4,454,117 are used for

Figure III-1 is included in the Final EIS. Many terms are defined in the text, rather than in the glossary for ease of reading. Chapter III was designed to give an overview of the area's resources rather than an exhaustive description.

3 timber, recreation, utility corridors, etc., I presume. The figure for wilderness areas is on page III-17. However, the beginning summary mentions only that vegetation management is presently done on an average of 130,300 acres per year, without stating the total scope of management.

The most disturbing impression I have, which actually made it very difficult to read through the Statement, is the emphasis on the use of herbicide and prescribed fire, methods of killing. These methods follow on the focus by the Forest Service on timber harvest as the primary consideration in dealing with the Appalachian Mountains.

It is not denied that at present there is wide use of paper products, but I do not believe the cheap price of paper reflects the worth of the living tree. According to the Northwest Landscape Professional, a University of Calicutta professor says that a tree living 50 years supplies about 193,250 dollars worth of benefits: 31,250 dollars worth of oxygen, 37,500 dollars worth of water, 31,250 worth of soil-erosion control and fertility, 31,250 dollars worth of shelter for animals, and 62,000 dollars worth of air pollution control.

4 Where does the income from harvesting publicly owned trees go? Is there any net income after the costs are figured? I could not find this issue addressed in the Statement.

I do agree with the stated assessment of public issues: balance of resources, prescribed fire, communications, herbicides, and mechanical treatments. I do not think the alternative to market output like timber can be passed off as "non-market outputs like aesthetics". At issue is the very balance of nature which is the basis of life on this planet. To imply that aesthetics is the concern is a very shallow view. The past 50 years have seen the dramatic decrease of wilderness and alarming increase in pollution from chemicals. Many species have become extinct or endangered. The air and water quality have deteriorated just about everywhere. The next 50 years must address these problems if the human race is to survive and become more healthy. Your preference (Alternative D) calls for increased use of herbicides and prescribed fire and increases environmental pollution.

- 3 The scope of the EIS and decisions are outlined on pages I-1-3 of the Draft EIS. The 130,323 acres reflect the total vegetation management activities of all the Appalachian national forests on an average annual basis. Prescribed fire rarely completely kills plants and is used more for fuels reduction and wildlife habitat than timber purposes.
- 4 The issues of forest economics, the Forest Service mission, and several other points raised are outside the scope of this EIS. Several are discussed in the Forest Land and Resource Management Plans of each National Forest.
- 5 Analysis in the EIS indicated that the proposed herbicides and prescribed fire can be used in preferred alternative D in a manner that causes minimal adverse environmental impact. In the Final EIS, severe slash burns are excluded and only class A herbicides with least health and environmental risks can be used without Regional Forester approval. See mitigation measures in chapter II, section E, parts 2.a and 2.c.

6

However a major step has been taken in improving communications with the issue of this statement. I am surprised and gratified to find such a frank and thorough appraisal of the unknown effects of herbicides. "When assessing herbicide effects on wildlife, we face an overwhelming number of species with data gaps and inconsistencies in data." (Page IV-66) Because of the prohibitive costs of evaluating the effects of herbicides on human, animal and plant health, you resort to estimates based on a few studies with selected laboratory animals. I do not find this reassuring in the least. Ignorance is no excuse, under U.S. civil law. When we don't know what will happen we usually stop, rather than go ahead and increase our risks.

7

The Environmental Impact Statement describes things like oral and dermal toxicities for particular animals, but I do not find mention of the web of life: the insects that eat the poisoned vegetation, which are eaten by birds, which are eaten by predators, etc. And I am aware that as science becomes more knowledgeable about poisons, more rigid standards are imposed.

8

In addition to the unknown effects, there are some known but overlooked effects detrimental to public health and safety. The manufacture, transportation and storage as well as disposal of herbicides pose risk to the environment.

9

The reasons for using herbicides is associated with commercial use and exploitation of the land and its vegetation. I do not believe that life is ours to use up, but a sacred trust we should improve or at least preserve for future generations.

As to prescribed use of fire for preventing large uncontrolled wildfires, it would be helpful to have some perspective through the inclusion of facts concerning places where there have been recent wildfires, as in Yellowstone Park last year. Was there a lack of prescribed burning there in recent years? It seems to me it would be healthier to allow the brush and debris to decompose naturally, providing mulch to hold water and organic matter to improve the soil. The ash left after a fire is much more compact and of shorter term use than organic matter. Where there is danger of wildfire, couldn't the Forest Service respond with helpful measures such as the use of trenches or even application

- 6 While there are significant data gaps, modeling is displayed which shows estimates of the potential effects of herbicides on various environmental elements. When modeling was done we always made conservative assumptions that consistently and deliberately overestimate potential adverse impacts to fill data gaps. Since most of the models multiply one risk times another, risks have actually been magnified far beyond what is probable in the field.

Scientific evidence presented in the Risk Assessment and the EIS supports the position that herbicides can be used as an effective, relatively risk-free tool in the forest environment. Mitigation measures for the use of herbicides (pages II-58-65 of the Draft EIS) including reduced application rates, emphasis on selective rather than broadcast use, buffering sensitive areas, etc. are all used to improve the relative degree of safety for workers, the public and wildlife, and to minimize adverse effects to non-target plants and the environment.

- 7 The concept of the web-of-life is addressed in terms of "bioaccumulation," "biomagnification," and "cumulative effects." Please see these discussions in chapter IV, sections B, D, and G, of the Draft EIS.
- 8 Manufacture and transportation to Forest Service facilities are outside the authority of the Forest Service. Effects from storage, use, and disposal are covered in sections II.E.2.c and IV.B through IV.G.
- 9 Prescribed fire for hazardous fuel reduction is done only in pine and pine-hardwood stands where decomposition is too slow to prevent hazardous fuel buildups. Without periodic prescribed fires, fuels in such stands may build up to such levels that, when wildfires occur, they will be harder to control and will burn many more acres (Draft EIS pages IV-123 and IV-124). If this happens, use of trenches and moisture will not be effective as the Yellowstone fires of 1988 demonstrated; those fires were as severe as they were because they burned during a drought period through areas where lack of periodic burning had allowed fuels to build to extreme levels over many years. In general, decomposition in hardwood forests like Joyce Kilmer is rapid enough to prevent hazardous fuel buildups, so prescribed fires are not needed to reduce fuels.

of moisture rather than destructive means?

How are forests such as the Joyce Kilmer Forest protected from wild-fires? It seems reasonable there should be more climax forests such as this for the enjoyment of tourists and much more unspoiled wilderness for the continuation of natural cycles outside the province of human management.

Perhaps a basic problem for the preservation of wilderness is the fact that the Forest Service is a division of the United States Department of Agriculture. Agriculture is dedicated to the harvest and use of nature for human consumption. Agriculture should include the use of timber, but there could also be a separate department dedicated to the preservation of wilderness.

1 Of the Alternatives listed, my preference is B, where herbicide risks are lower than at present and the smoke from prescribed fires is only 7,900 tons instead of 12,400 tons.

10 No where could I find that this statement is planning for the next 50 years, although I believe this was the intended scope of the plan. Is there provision for revision as new facts become known?

In summary, my opinion favors mechanical and manual methods of vegetation management and I believe in substantially less vegetation management. I strongly oppose clear cutting in favor of selective harvest of mature trees with the obligation to preserve the integrity of the forest on a continuing basis.

Thank you again for the well prepared Environmental Impact Statement and for considering my opinion.

Sincerely,

Anne Whitefield
Anne Whitefield

Actually, our estimates are that this analysis will be useful for perhaps 10 years. Even then, revisions will be made any time they are necessary (Draft EIS, pages II-28, II-41, II-44-46, IV-2, IV-150-151, IV-153, and IV-154).

FM206 02/10/89

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
116 WEST JONES STREET
RALEIGH NORTH CAROLINA 27611

INTERGOVERNMENTAL REVIEW COMMENTS

MAILED TO

U.S.D.A. FOREST SERVICE
STEVE MCCORQUODALE
1720 PEACHTREE RD., N.W.
ATLANTA, GEORGIA 30367

FROM

MRS. CHRYS BAGGETT
DIRECTOR
N C STATE CLEARINGHOUSE

PROJECT DESCRIPTION

VEGETATION MANAGEMENT ON NATIONAL FORESTS OF THE APPALACHIAN
MOUNTAINS AREA

SAT NO 89E00000606 PROGRAM TITLE - DRAFT EIS

THE ABOVE PROJECT HAS BEEN SUBMITTED TO THE NORTH CAROLINA
INTERGOVERNMENTAL REVIEW PROCESS. AS A RESULT OF THE REVIEW THE FOLLOWING
IS SUBMITTED () NO COMMENTS WERE RECEIVED

(X) COMMENTS ATTACHED

SHOULD YOU HAVE ANY QUESTIONS, PLEASE CALL THIS OFFICE (919) 733-0499.

cc: Regions A,B,C,D,E

Response to Comments in Letter No. 546

From: Chrys Baggett

Comment No.

Response

This is a cover letter which requires no response. Comments attached to this letter are numbered sequentially beginning with the number 547 and ending with number 551; each is responded to separately.

State of North Carolina
 Department of Natural Resources and Community Development
 512 North Salisbury Street • Raleigh, North Carolina 27611

James C. Mann, Governor

William W. Cobey, Jr. Secretary

MEMORANDUM

TO: Chrys Baggett
 State Clearinghouse

FROM: Melba McGee *MB*
 Project Review Coordinator

RE: 89-0606 DEIS for Vegetation Management in the
 Appalachian Mountains

DATE: February 14, 1989

The Department of Natural Resources and Community Development (NRCD) has reviewed the DEIS for Vegetation Management in the Appalachian Mountains. Departmental staff and the N.C. Wildlife Resources Commission have thoroughly reviewed the DEIS, and in doing so have raised several concerns about the proposed Forest Plan. The attached specific comments offer suggestions on how the Management Plan can be improved to better reflect the goals, policies and regulations of this department.

Our divisions generally agree that the preferred Alternative (D) comes closer to resolving our concerns than any of the other alternatives. A consensus has not been reached among our divisions on the appropriate method for controlling vegetation. For instance the Division of Forest Resources encourages the use of prescribed fire and herbicide methods and less use of mechanical soil disturbing type methods. The Division of Parks and Recreation opposes aerial application because of spray drift and runoff but also realizes some of these areas may not be accessible. The N.C. Wildlife Resources Commission does not oppose any one method, but strongly suggest that the most appropriate economical tool or method be chosen according to individual areas that need managing. Close consultation with NRCD divisions and the N.C. Wildlife Resources Commission would help the USDA Forest Service in this selection.

We encourage the USDA Forest Service to adequately address these and other issues provided by our reviewing divisions and that these issues be considered and incorporated before plans for specific activities are made. Our divisions welcome the opportunity to discuss their concerns and offer their assistance in working with the USDA Forest Service throughout all phases of the project.

MM:bc
 attachments

PC) Box 27607, Raleigh, North Carolina 27611-0607 Telephone 919/733-4984

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Response to Comments in Letter No. 547

From: Melba McGee

Comment No.

Response

Comments attached to this letter are numbered sequentially beginning with the number 548 and ending with number 551; each letter is responded to separately.

DIVISION OF PARKS AND RECREATION

February 8, 1989

MEMORANDUM

TO: Melba McGee

THROUGH: Carol Tingley *CT*FROM: Michael P. Schafale *MS*

SUBJECT: Draft EIS -- Vegetation Management in the Appalachian Mountains

1 A general statement such as the Vegetation Management EIS must necessarily lack specifics. Assessment of the effect of actions is difficult because the effects will depend on how and where the specific management tool are applied. Therefore, the site-specific analysis is of crucial importance. Consultation with interested, concerned, and knowledgeable groups and individuals should be a regular part of this process.

Additional specific comments follow:

2 The listing of endangered, threatened, and sensitive species, at least for North Carolina's national forests, has serious problems. Numerous species which should be on the list for North Carolina are not. Some, such as trailing wolfsbane (Aconitum reclinatum) are completely absent, and many others, such as green salamander (Aneides aeneus), wretched sedge (Carex misera), and spotted mandarin (Disporum maculatum) are in tables F-3 and F-4 but are not noted as sensitive in North Carolina. A meeting is scheduled with national forest staff in North Carolina to update the sensitive plant list. This updated list should be included in the final document. A similar updating of the animal list should be done.

The federally listed Heller's gayfeather (Liatris helleri) is missing from the list of federal species. The mountain bluet (Hedyotis purpurea var. montana) is in the process of being proposed for listing and should also be added. Federal candidate species should also be considered.

3 We commend the plans to consult with Natural Heritage Programs in site-specific planning when sensitive species are known to be present; however, we are concerned that not all sensitive species sites are known. Few national forests have had recent thorough inventories of sensitive species and, given the limited exploration of many areas, many such sites undoubtedly remain to

Response to Comments in Letter No. 548

From: Michael P. Schafale

Comment No.

Response

- 1 Site-specific analysis is required by mitigation number 1 on page II-44 of the Draft EIS. Implementation, which includes varied expertise, is done at the district and forest level.
- 2 All species mentioned here are now listed for North Carolina. Mr. Schafale provided further information in clarifying Letter No. 471 and listing of species shown on pages 3 and 4 of that letter. These species are now incorporated in the appropriate tables as shown in the response page for Letter No. 471.
- 3 We agree, current inventories are often inadequate. Please see mitigation number 2 (pages II-44 and -45 in the Draft EIS) and also figure D-1 (pages D-8 and -9 in appendix D) which address this concern.

be discovered. Such sites would likely be destroyed by intensive, unnatural vegetation management techniques. We encourage the Forest Service to fund surveys for rare species and to employ staff botanists and zoologists who can conduct searches when site-specific plans are being formulated. Conservative, low intensity vegetation management treatments are less likely to unknowingly eliminate unknown sensitive species populations.

- 4 We are also concerned about sensitive areas other than known endangered, threatened, and sensitive species sites. These include Research Natural Areas, Special Interest Natural Areas, registered and proposed Natural Heritage Areas, State Parks, and rare community types such as grassy balds, rock outcrops, and bogs. We request that the same requirements for consultation with Natural Heritage Programs and more stringent mitigation measures, similar to those for sensitive species, be required for these areas.

We commend the proposal to reduce the intensity of mechanical and fire treatments to reduce adverse environmental effects. This should be beneficial to the great diversity of both rare and common species, and to the natural diversity of the region as a whole.

We commend plans to establish native species on intermittent roadways and on cut and fill banks.

- 5 The proposed 5 foot buffer of woody vegetation to be left along stream banks (page II-47) seems grossly inadequate in a region of steep slopes and high stream gradients. We recommend a much wider vegetated buffer for streams, with trees as well as shrubs left.

- 6 We are opposed to the proposed aerial application of herbicides. Aerial spraying represents a very nonselective and difficult-to-control application method. It is likely to have detrimental effects despite the planned mitigation measures. Although the acreage proposed for aerial spraying in the preferred alternative is relatively small, corridors extend for large distances over the landscape, have long edges with adjacent lands, and cross many streams and watersheds. The areas potentially affected by the spraying are therefore substantially larger than limited acreage would suggest.

- 7 Some of the proposed mitigation measures, upon which impact assessment is based, while stringent, seem difficult to apply and appear unlikely to be carefully followed. For example, the maximum wind speed of 5 mph for aerial application of liquids is probably reached for sustained periods in mountainous areas. It seems unlikely that a spraying operation would be immediately suspended if the wind speed increased somewhat beyond this limit.

The proposed buffer of 100 feet around surface waters is likely

4 The site-specific management of the various sensitive areas listed is outside the scope of this EIS. These are appropriately discussed in the Forest Land and Resource Management Plans of each National Forest.

5 This 5-foot buffer is meant only to prevent excess erosion by channel flows. Stream protection from upslope erosion is provided by filter strips (Draft EIS pages II-54 and II-57), which are in addition to the 5-foot buffer and whose width in feet must be at least 30 plus 1.5 times the percent slope.

6 Please see response to comments in Letter No. 38, Comment No. 2.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

7 Operational responsibility for shutting down the project is placed on the field supervisor or the COR (mitigation number 12, page II-61, Draft EIS) - a Forest Service employee. We feel that with proposed monitoring and authority to shut down projects, treatments can occur with minimum risks. Also, of the 400 acres available for annual treatments, it is estimated less than 10% occur in the national forests in North Carolina.

8

inadequate to protect them from combinations of overshooting boundaries, drift of spray, and movement in runoff water. This is particularly true for buffers in the direction of the flight line. The risk, mentioned on page IV-99, of direct application to streams during aerial application to gas and utility corridors appears likely, with significant effects on aquatic life. To protect streams for such accidents, a wide buffer would be needed parallel to the flight line. Given the density of streams in much of the region, aerial application with adequate buffers would probably be impractical.

9

We have reservations about the proposed grassy bald management. Comment is difficult because of the diversity of balds and the lack of specifics in the document. The discussion seems to be biased toward the use of fire in bald maintenance. While this appears to be appropriate in some cases, we are concerned about the use of fire in natural high elevation grassy balds such as Roan Mountain. We also have serious reservation about the use of intensive, soil-disturbing mechanical methods of bald restoration. Such concerns can best be addressed by close consultation with concerned groups such as Natural Heritage Programs and the Southern Appalachian Highlands Conservancy when site-specific plans are made. Most treatments in most places must still be regarded as experimental and should be applied cautiously.

- 8 Risks from stream overflight are discussed in chapter IV of the Draft EIS (pages IV-99 through IV-107). Commenter's conclusions do not agree with those in the EIS. However, we have increased the buffer widths for stream crossings to 200 horizontal feet to minimize risks of accidental misapplication.
- 9 Alternative D represents only a minor increase in the use of fire, over present levels, for balds maintenance (see pages II-7 and II-9 for comparison). Note that a variety of methods are available; however, the use of intensive mechanical treatments is not allowed anywhere. Site-specific project proposals for balds management are subject to all mitigation measures (especially see numbers 1, 2, and 3 on pages II-44-46). Of equal importance is the requirement that a management plan be prepared for each bald (page II-52 of the Draft EIS) that would specify appropriate tool use and special requirements unique to each bald.



State of North Carolina
 Department of Natural Resources and Community Development
 Division of Forest Resources
 512 North Salisbury Street • Raleigh, North Carolina 27611

James G. Martin, Governor
 William W. Cobey, Jr., Secretary

Harry F. Layman
 Director

January 31, 1989

MEMORANDUM

TO: Melba McGee
 Environmental Assessment Unit

THROUGH: Fred White, Branch Head *FW*
 Derryl Walden, Section Chief *DW*
 Harry Layman, Director *HL*

FROM: Don H. Robbins, Staff Forester *DHR*

SUBJECT: DEIS for the USFS Vegetation Management in
 the Appalachian Mountains (Volumes I and II)

Project # 89-0606

Due Date: 2-9-89

We have reviewed the above subject document and have the following comments:

1

1. We support Alternative D (the preferred alternative).
2. This alternative will utilize the suggestions we made during the scoping phase and are contained in my memo dated August 11, 1987 under subject, "Proposed EIS for Vegetation Management on National Forest Lands in North Carolina (Pisgah and Nantahala National Forests)".
3. Emphasis here is for more use of prescribed fire and herbicide methods and less use of mechanical soil disturbing type methods to accomplish the job.

DHR/11

Response to Comments in Letter No. 549

From: Don H. Robbins

Comment No.

Response

- | Comment No. | Response |
|-------------|--|
| 1 | Your preference for alternative D was included in the content analysis of all comments received. |



State of North Carolina
Department of Natural Resources and Community Development

Division of Soil and Water Conservation
512 North Salisbury Street • Raleigh, North Carolina 27611

James G. Martin, Governor
William W. Cobey, Jr., Secretary

February 8, 1989

David W. Sides
Director

MEMORANDUM

TO: Melba McGee
FROM: Larry Sink *Larry Sink*
SUBJECT: Vegetation Management on National Forest Soils Concerns

1
In any type of Woodland Management Plan, forestry related plans or activities, or vegetation management plans, the soils conditions are an essential part of the management of woodland and vegetation. Soil types and their related properties can influence to a large degree the type of trees and vegetation that are being tested, managed or protected. We have several soil surveys that are completed and some in the process of being made in the mountain counties. This valuable source of information should be an integral part of the vegetation management plan. Since this type of activity would have very little to no affect on converting prime forest land to some other land use, the issue of prime agriculture and forest land would not be concerned. It should be noted that this area does contain prime forest land and should reflect this in the management plan.

LTS/cjb

Response to Comments in Letter No. 550

From: Larry Sink

Comment No.

Response

-
- | | |
|---|---|
| 1 | Soil surveys were used in the development of Forest Land and Resource Management Plans. They will also be used during the site-specific analysis. |
|---|---|

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RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

I feel a lot of time and energy has gone into the Forest Service vegetation control. But I feel in the area of herbicide use not enough thought has gone into the potential hazards these poisons create!

Why?

- 1 The use of some pretty toxic chemicals is being supported by the Forest Service. The chemicals pose a serious threat to the ecological balance of the forests and to the health of its inhabitants!

Comments on Alternatives:

- 2 I feel a wide range of alternatives were presented. However the only alternative I feel that will benefit the forest is Alternative A. I chose it as it is the least intrusive and damaging to the forest.

Why?

I believe the Forest can take care of itself. It is human "management" that creates problems. I am extremely concerned about the use of herbicides.

I feel that anything that is ~~poisonous~~ poisonous to any plant or animal species does not belong Other: in the forests.

I feel the forests has been abused in the past and that we need to take a softer approach to our environment if it is to survive for future generations. I know many people are resisting this path but it is becoming more and more evident that are methods must change if we and the planet are going to survive!

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

Mary E. LeGrand
Name: First MI Last (Organization)
General Delivery
Street
Swiders VA 22820
City State Zip Code

Tear at perforation

Response to Comments in Letter No. 551

From: Mary LeGrand

Comment No.

Response

- 1 The selection of herbicides approved for general use by the preferred alternative is restricted to those designated as "class A" on page II-42 of the Draft EIS through mitigation number 7 (page II-59, Draft EIS). Class A herbicides have low toxicity to humans and wildlife and are short-lived in the environment when applied and incorporating proposed mitigation measures.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Your preference for alternative A was included in the content analysis of all comments received. For effects of alternative A, please see page IV-130 and the summary of comparison of alternatives, pages II-67-83, in the Draft EIS. Also see response to comments in Letter No. 266.

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

1

Comments on Scientific Analysis: *Excellent, very informative study. I missed discussion of clear-cutting as a management treatment*

Why?

2

Comments on Alternatives: *Preferred alternative = E.*

Why? *Less soil disturbance = less erosion - Less use of herbicides with NO aerial application for maximum public and environmental safety. Less intense treatments lessen adverse effect on human & environmental aspects -*

Other:

Alternative D would be second choice -

Why? *Certainly less labor and less cost are attractive elements of this alternative -*

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address outside and drop in the mail (no postage necessary).

June D Harrell, A-3LA
Name First MI Last (Organization)
749 Stevall Blvd, NE
Street
Atlanta, Georgia 30342
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 552

From: June D. Harrell

Comment No.

Response

- 1 The issue of "clearcutting" is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest. Please see scope of decisions on page I-3 of the Draft EIS.
- 2 Your preference for alternative E was included in the content analysis of all comments received. Alternative E does have some of the favorable effects listed. It also has effects considered unfavorable by other commenters. Pages II-76-II-83 of the Draft EIS summarizes the positive and negative effects of alternative E. More detailed summaries of impacts of each alternative begin on page IV-130 of the Draft EIS.

21389

Dear Mr. Dahl:

In regard to the vegetation management of the National Forests of the South-East, I am vehemently opposed to the use of toxic chemicals.

- 1 I support "Alternative A" which provides for treatment of our forests with no such compounds. I hope that you will see fit to protect our forests and support this alternative as well.

Sincerely yours,
Elizabeth H. Feinberg
1032 24th St. S.
Birmingham, AL 35205

Response to Comments in Letter No. 553

From: Lizabeth D. Feinberg

Comment No.

Response

1

Your preference for alternative A was included in the content analysis of all comments received. For effects of alternative A, please see page IV-130 and the comparison of alternatives, pages II-67-83, in the Draft EIS. Also see response to comments in Letter No. 266.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1 and 560.

Dear Sirs,

The following is my vote and opinion on the draft environmental impact statement for Vegetation Management in the Appalachian Mountains.

- 1 Most importantly I do not support the use of any herbicides in the National Forest. The reason is that ^(herbicides) they are not found in nature's molecular axiom. So, since they are not forest made, herbicides do not belong in the forest. They do create a contamination problem by their dispersement, mainly to non-target plant species and the animal population, including man. Is your scientific analysis and opinion on herbicide use supported by the herbicide producers? If so, does that make their product safe.

- 2 Alternative A is my choice for the Foresters to implement. Because leaving the forests alone can only help it on the path to a healthy vibrant climax forest. A forest that will be what it was and as it should be. Only then will a self-regulating forest be productive to multi-purpose use (including lumbering)

Michael Scherer
General Delivery
Crider, VA 22720

Response to Comments in Letter No. 554

From: Michael Scherer

Comment No.

Response

- 1 Your opposition to herbicide use has been included in the content analysis of all comments received.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 Your preference for alternative A has been included in the content analysis of all comments received. Also see response to comments in Letter No. 266.

February 16, 1989

The Commonsense Army, Tennessee Division
PO Box 52
Etowah, Tennessee 37331

USDA Forest Service
Vegetation Management Environmental Impact Statement
Suite 360
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367-910

Dear Sirs:

These are the comments concerning the Draft Environmental Impact Statement for the Cherokee National Forest.

1. We feel the need to make public your violation of the Federal Insecticide, Fungicide and Rodenticide Act. On pages X and XI RE: Environmental Concerns--"Human Health and Safety" and "Wildlife" you have twice used the word SAFE. This is in direct violation of FIFED.
2. We must publically protest your failure to address the acid problem.
3. We protest the fact that the VMEIS did not address the problem of vegetational diseases. Such as the oak decline, chestnut blight, yellow pine beetle, etc.
4. We are completely mystified as to why you studied, in depth, herbicide issue and totally ignored the issue of insecticides. It is entirely possible the statement could and perhaps should be declared invalid because of this blatant neglect.
5. You have failed to address the long term effects of highly concentrated management practices on environmental concerns. Why? Harvesting activities have, most definately occurred in this manner and definately affects diversity.
3. According to Mr. Gary Sick (per our recent meeting) the diversity of an even-aged managed area is reduced, overall, by approximately 50%. Since regeneration units have been and will be highly concentrated, we strongly protest this reduction and question the practice concerning
4. We would like to inquire as to the steps taken and the need for site preparation (using chemicals) in a hardwood regeneration unit where most are regenerated from existing stumps.

Response to Comments in Letter No. 555

From: Fred and Joyce Reese

Comment No.

Response

- 1 The word "safe" has been deleted from the summary and throughout the text.
- 2 The issues of acid rain, plant pathology, pesticides not used to manage vegetation, and method of harvest are all very important issues but are outside the scope of this EIS. They are discussed in the Forest Land and Resource Management Plans of each National Forest. Please see page I-3 of the Draft EIS for activities addressed.
- 3 A more accurate citation is that vegetation management has an initial effect of a reduction in diversity; see chapter IV, part C. The EIS does not discuss silvicultural systems or harvest cutting methods (Draft EIS, page II-20).
- 4 In hardwood site preparation, just prior to harvest, herbicides can be used to treat undesirable understory species to permit enough light for establishment of species such as oak. Also, species that vigorously stump sprout in clumps (red maple) can be treated. In both cases, treatments are selectively done.

Site-specific decisions will be documented in a site-specific analysis (per mitigation number 1 on page II-44, Draft EIS).

8. Following are a very few random comments concerning the EIS: (These comments are few and varied...CSA reviewers noted several instances in which variances were noted but time and conservatism prevent pinpointing each and every issue.)

- 5 A. The CSA urges the Forest Service to restrict all aerial herbicide spraying to those rights-of-ways in locations that cannot be accessed in any other manner AND to the least hazardous chemicals possible. In fact, herbicide use in any form or fashion should be restricted to the very minimum.
- 6 B. The burn policy guidelines should include the coordination of burns with other local foresters. This problem was not addressed in the EIS.
- C. It would seem, to this organization, at least, that you have had the tendency to discredit all studies that suggest some chemical's could have negative effects and promote the opposition to this point.
- 7 D. In the appendices (section 3 page 36) "2,4-D", Dr. Melvin Ruber also suggested there are no safe exposure levels to any chemical...that any adverse effects offered to animals also applies to mankind. Dr Ruber is a highly reputable scientist affiliated with the National Cancer Inst.
- 8 E. We know that "inerts" can be as chemically active in the environment as the so-called active ingredients'...the general public should be informed of all inerts affiliated with the chemical usages...not just the ones USFS and the Environmental Protection Agency decided to disclose at the time of printing of the EIS.
- 9 F. It has been suggested that formaldehyde is a synergistic by-product of Limonene. FS should look into this.
- 10 G. Spray Drifts (4-19 Appendices) You know that readability is a requirement of NEPA...this section certainly isn't. You stated "field measurements of drift are unavailable for the spray equipment typically used by the FS and its contractors" but proceed to program a computer with gibberish the layman cannot comprehend. Now, in layman's terms, approximately what percentage of spray drift can we expect to drift into and onto non-target areas?
- 11 H. Your toxicity reference values (section 5-page 4--table 5-1) are sorely inadequate and basically guess work. It is virtually impossible to calculate this in a reliable manner since the exposure levels for humans are unknown for obvious reasons...as are the long term effects on humans (and wildlife alike). When you spoke of worker risks, (section 5-page 5) one tends to think that if your community would heed the findings of studies done by organizations as reputable as the University of Kansas, Kansas State University and the National Cancer Institute you might come to a better understanding on the health risks involved in chemical usage.
- 12

- 5 In the Final EIS, aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS). Lowest effective rate are already required (mitigation numbers 4-8, pages II-58 and -59, Draft EIS).
- 6 Please see mitigation number 1 on page II-52, Draft EIS.
- 7 There was certainly no intent to discredit any study to promote opposition to a particular point. Dr. Rueber's contentions are documented, discussed, and evaluated along with all of the other available data. His opinion was found insufficient in light of the weight of scientific evidence. EPA and various science advisory panels now disagree with Dr. Rueber's conclusions. Published EPA statements and analysis in this EIS do not support them.
- 8 The list of inerts presented on page 3-49 in appendix A is complete for the products evaluated in the Risk Assessment and EIS.
- 9 There is no evidence to indicate that limonene is synergistic with formaldehyde. No formulation of the herbicides addressed include formaldehyde.
- 10 Please see figures 4-1 through 4-3 which show graphically (with scales in standard measures) what might be expected for drift.
- 11 NOEL, LD₅₀, and cancer potency values summarized in table 5-1 are taken directly from data summarized in section 3 of the Risk Assessment, without manipulation. Data for exposure are derived from section 4 of the Risk Assessment. The information and conclusions in the Risk Assessment have been extensively peer reviewed by nationally-known toxicologists, EPA, Center for Disease Control, U. S. Fish and Wildlife Service, and many others.
- 12 The EPA has recently published the opinion that "...existing epidemiological data are inadequate to assess the carcinogenic potential of 2,4-D..." (Federal Register 53:9590; Mar. 23, 1988). When rendering this decision they also stated that the MCI/Kansas study had drawn conclusions unsupported by the data presented. Several procedural mistakes have caused the EPA, several independent consultants, and the President's Science Advisory Panel to reject the conclusions drawn in this study. The EPA does admit that the MCI/Kansas study may have merit as a basis for further work. In the Draft EIS, 2,4-D was identified as a Class B herbicide and will not be used unless a Class A is unsuitable, and adverse effects can be mitigated; and then only with Regional Forester approval.

THE ALTERNATIVES;

Each Alternative has it's advantages and disadvantages...~~for~~ many and varied to go into in detail. The Common Sense Army deliberated long and hard as to the one alternative our organization felt would be most beneficial to the environment of the Cherokee National Forest, the wildlife and the public. We tended to think the A (do-nothing) alternative might be the best thing that had ever happened to CNF since the advent of evenaged management BUT since it would put so many people out of work for several years we have chosen another.

13

Because of the greatly reduced usage of chemicals and prescribed burning, the increased employment opportunities (the increased cost is mitigated by increased employment) and varied other reasons the Common Sense Army has chosen the "E" Alternative.

We thank you for the opportunity to express our opinions on this subject.

Sincerely yours,

Fred & Joyce Reaca

Fred and Joyce Reaca, Directors

Your preference for alternative E was included in the content analysis of all comments received. See response to comments in Letter No. 281, Comment No. 7.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

February 17, 1987

USDA Forest Service
 VMT - Room 362 South
 1730 Peachtree Road NW
 Atlanta, GA. 30367-7102

Gentlemen:

In recent weeks I have been observing the unfavorable media coverage you have been receiving regarding your forest management plans on clear cutting and herbicide spraying.

I would like to voice my support of these and any other plans which you might deem necessary to manage your agency and the forests. This is what you people are there for, and I am sure you are more qualified to make these decisions than the so-called environmental groups that are trying to tell everybody how to run things.

I am tired of these "guys in pony tails" with nothing else to do but stick their nose in everyone's business while the silent majority sit back and let it happen.

Even though I pay what I consider a substantial amount of tax, I do not feel anything the government owns belongs to me, or anyone else.

Response to Comments in Letter No. 556

From: C. M. Loven

Comment No.

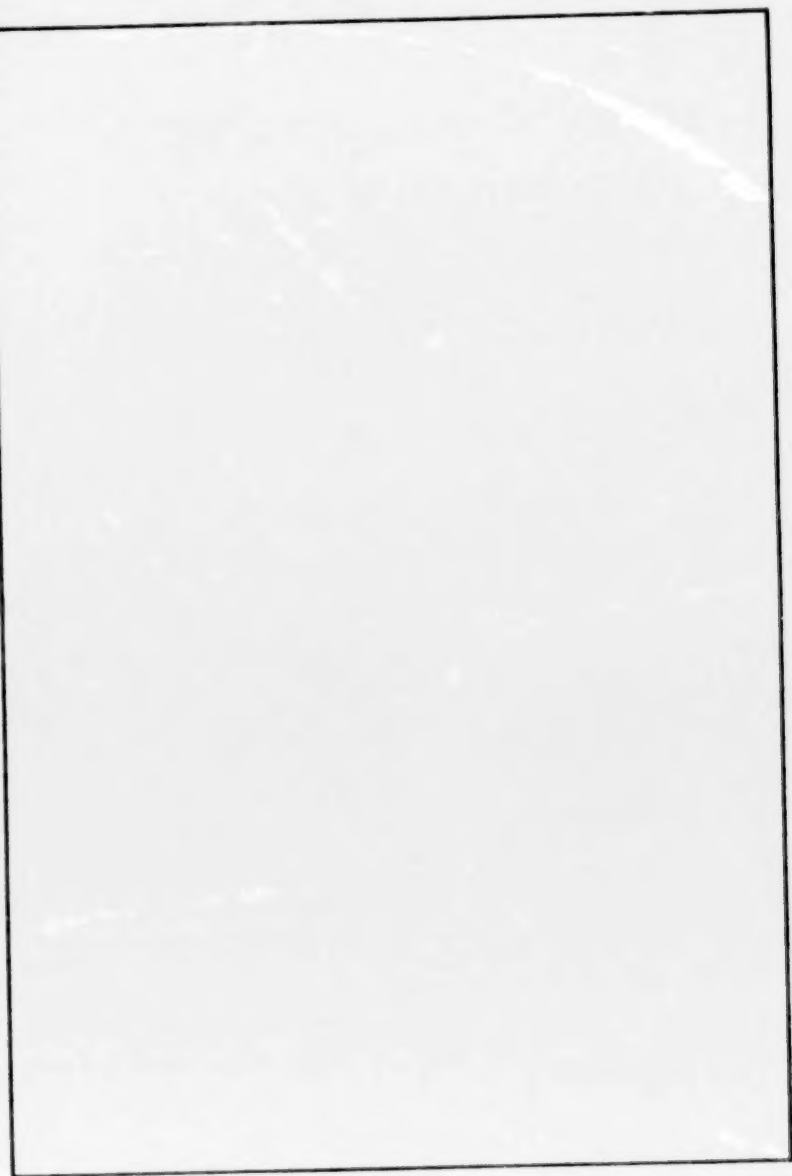
Response

1 Your comments are noted.

I realize that you can't publicly
tell these people what you, and I,
would like to tell them, but I
just want you to know someone out
here is behind you - I think you
do a great job and I want you
to continue to "handle it".

Sincerely,

C. W. 



R. C. FEASAL
 171 GRASSY LANE
 WOLF LAUREL, NC 28754

February 17, 1989

USDA Forest Service, VNC
 Room 362 South
 1720 Peachtree Road NW
 Atlanta, Ga. 30367-9102

CS & S

Gentlemen:

I have just read an account of your plan for herbicide spraying in your vegetation management program. One particular reference has greatly concerned me. That is the spraying of mountain top balds in the Appalachian Mountains.

1 My home is less than one mile from the summit of Big Bald Mt. in Yancey County, N. C. This mountain is visited by children and bikers constantly all summer. Children love to run and play in these clean grasses. Also the mountain is covered with patches of blueberries(huckleberries). My wife and I, and others, pick blueberries there every year. I frequently take my grandchildren up to this beautiful spot. I will hesitate to do this if herbicide is sprayed on these grasses, and the blueberries will be less appealing.

2 My question is--why do these natural balds have to have any vegetation control? They have evolved over centuries and have come to their present state naturally. Why should they not continue to exist in their natural state?

I would appreciate an answer as to why the Forest Service feels the spraying of balds is necessary. It seems to me that the potential for damage could possibly exceed any benefits that you envision. Please let me have your reply.

Sincerely,



Robert C. Feasal

cc Senator Terry Sanford
 Senator Jesse Helms
 Representative James McClure Clarke

Response to Comments in Letter No. 557

From: R. C. Feasel

Comment No.

Response

- 1 Please see mitigation number 8 on page II-59 of the Draft EIS which requires that timing of herbicide application be planned to maximize safety of several groups of visitors. Also see mitigation number 6 on page II-58 of the Draft EIS which emphasizes selective treatments. Also note selectivity requirements (page II-10) for alternative D. As disclosed nearly all treatments in the general forest are 100% selective.
- 2 Many theories have been developed over the last 50 years to explain the origin of these open areas. Theories include those of natural causes such as lightning fires, insects, windthrow, landslides, exposure to high winds and cold temperatures, changes in the climate, and ecotonal position or man-caused activities such as clearing by Indians and early settlers (Uplands Field Research Laboratory 1983). Although questions about origin are unresolved; historically many of these areas have remained open due to environmental conditions, burning, and extensive grazing of cattle, horses, and, to a lesser extent, sheep.

In the absence of natural or man-caused disturbances, succession in grassy balds slowly proceeds from herbaceous to woody species (Uplands Field Research Laboratory 1983; Pittillo 1980). Woody succession has been estimated to be reducing the area of grassy balds by approximately one percent per year (Lindsey and Bratton 1979a). For example, Bratton and White (1980) estimated that all balds on the Great Smoky Mountain National Park would be forested in 30 to 70 years.

For further discussions as to why balds, natural or man-made in origin, require some vegetation management, see chapter III, pages II-15 to III-17, and chapter IV, pages IV-46 to IV-49, IV-53 to IV-54, IV-60 to IV-62, and IV-63 to IV-64 of the Draft EIS.

1100 C Ridge Court
 Asheville, N.C. 28805
 February 16, 1999

USDA Forest Service
 VMT- Room 362 South
 1720 Peachtree Road N.W.
 Atlanta, Georgia 30367-9102

Dear Sir:

1 I oppose the U.S. Forest Service plan to increase the use of
 herbicides on the national forests in the Appalachian Mountains.
 This practice needlessly poisons the environment and kills
 wildlife. Removing unwanted vegetation manually or
 mechanically are better options.

Sincerely,

Mrs. Penni Hagler

Response to Comments in Letter No. 559

From: Ms. Perri Teague

Comment No.

Response

- 1 Your opposition to herbicide use was included in the content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Feb. 6, 1989

Sam D. Dell,

- I am writing in reference to the U. S. Forest Service draft of environmental impact statements. After speaking with my neighbors & friends I have found a general consensus of opinion - No herbicides and most of all No to herbicides applied by air. I had always assumed that the forestry dept. was not only interested in managing forests & trees but that you would be on the forefront for preserving nature, the animals, fish, birds and humans. The latest reports say that you are closely applying loads of gallons of lethal sprays to our environment. This, to me, is a heinous idea. We are just beginning to learn about the ramifications all of these sprays bring to the chain of life. The buffers were stated in your policies do not have margin for error or misdeed. I for one would not want your sprays within 100 ft of my walls. None of us know the deadly side effects of agent orange in Vietnam - could this be a repeat in 10 years?
- I beg you to reconsider the possibilities - the areas concerned are depressed areas, people need jobs. There are also many groups who would gladly participate in volunteer programs if we were assured that our help would mean no spraying. I feel I could give some credit for help in the field. There are as many options, please for everyone's sake No Spray!
- Your chattering policies are just another noise, but not near as life threatening as the herbicides. Let's take one step at a time. Be the leader in the county - show other departments the ideal situation - education & past guidelines

Response to Comments in Letter No. 560

From: Diana M. Pawlick

Comment No.

Response

- 1 Your opposition to herbicide use was included in the content analysis of all comments received.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1.

- 2 We agree. See mitigation measure number 30 on page II-64 of the Draft EIS for aerial application of utility rights-of-way. Buffers for streams have been increased to 200 horizontal feet. Also, please see response to comments in Letter No. 169, Comment No. 2.
- 3 Please see response to comments in Letter No. 22, Comment No. 1 and Letter No. 57, Comment No. 3.
- 4 A section has been added to chapter I in the Final EIS that expands the use of all tools, including herbicides, that are needed for various Forest Service activities.

Also, mitigation measures 1-4, pages II-44-46 in the Draft EIS, require site-specific analysis and biological evaluations which include Integrated Pest Management strategies and Best Management Practices to be evaluated prior to any activity occurring.

-2-

on the back for the ~~new~~ use of herbicides. Show the country that we care what happens to all life in the Appalachian Mountains. It would be great for Tourism. Please look at the possibilities — next summer, there are many who hate the idea of herbicides & pray for your change of heart.

Sincerely
 Diana M. Paulick
 Diana M. Paulick
 120 Cassin Co. 2 Rd
 Franklin, NC 28734



Feb 7, 1989

QUITA MAZZINA
120 CARSON COVE RD.
FRANKLIN, N.C. 28734

DEAR MR. DAHL,

1 I AM WRITING IN RESPONSE TO THE NEW VEGETATION
MANAGEMENT⁴ PROPOSAL THAT COVERS THE NATIONAL FORESTS IN THE
MOUNTAIN AREAS OF NORTH CAROLINA, TENNESSEE, GEORGIA,
VIRGINIA, KENTUCKY, AND ADJACENT AREAS IN SOUTH CAROLINA.
I PURCHASED A HOME THAT WAS SURROUNDED BY NATIONAL
FOREST BECAUSE I FELT I WOULD BE PROTECTED FROM THE
IGNOMINIES OF MASS DEVELOPMENT, POLLUTION, ETC, ETC. AD
INFINITY. IT IS BEYOND MY COMPREHENSION THAT INFORMED
MINDS COULD EVEN CONSIDER THE USE OF HERBICIDES. I
REGRET THAT MY TAX DOLLARS SUPPORT POSITIONS MAINTAINED
BY ANYONE SO ILL-INFORMED AS TO EVEN INTIMATE
THE POSSIBILITY OF CHEMICAL TREATMENT.

Sincerely,
Quita Mazzina

Response to Comments in Letter No. 561

From: Quita Mazzina

Comment No.

Response

- 1 Your opposition to herbicide use was included in the content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter No. 1 and Letter No. 560.

Also see response to comments in Letter No. 256, Comment No. 1.

563-567

The above letter numbers are all of the same content and a copy of the letter is reproduced below. These numbers also appear next to the names of persons who sent them in chapter VI (Volume III). Most of them did not have an address. Therefore, we were unable to add them to our mailing list to receive an EIS.

Dear Mr. Dahl:

I am against the use of toxic chemicals on our national forestlands. I support "Alternative A" which provides for no treatment of our Forests with such compounds.

sincerely yours

1
Lucia L. Zimmerman *we can only hope*
3433A Sandman Court *make a*
Blaine, Al *difference!*
35209

Response to Comments in Letter No. 562-568

From: _____

Comment No. _____

Response _____

- 1 Your preference for alternative A and opposition to herbicide use was included in the content analysis of all comments received. For effects of alternative A, please see page IV-130 and the comparison of alternatives, pages II-67-83, in the Draft EIS.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1 and 560.

MEMO 2.17.89

TO: STEVE McCORQUODALE
FROM: R.W. DENMAN
SUBJECT: DEIS - VEGETATION MGMT
IN THE APPALACHIAN MTS.

AFTER CAREFUL REVIEW OF BOTH VOL. I
& II AND STUDYING THE PROPOSED ALTER-
NATIVES, I CONCUR & RECOMMEND THE
PREFERRED ALTERNATIVE "D."

HOWEVER, I WOULD LIKE TO SEE
AS MUCH USE OF "NATURAL" - FIRE
MGMT AS POSSIBLE & WHERE APPLICABLE.
ALSO, AS I STATED TO YOU ON 4.14.88,
I WOULD LIKE TO SEE TO THE MAXIMUM
EXTENT POSSIBLE - MECHANICAL & MANUAL
TREATMENTS (SITE APP, TS1, ETC),
PERFORMED WITH THE PRIVATE SECTOR &
MOSTLY BY ANY WILLING CONTRACTOR OR
TIMBER PURCHASER CURRENTLY HARVESTING
A SALE OR UNIT. HOPEFULLY THIS WOULD
LEAD TO A SINGLE-PASS OPERATION WHICH
WOULD LEAVE THE SITE READY TO
REGENERATE. THANK YOU FOR GIVING ME
THE OPPORTUNITY TO HAVE SOME INPUT.
SINCERELY, R.W. Denman, RF
CL: FILE

POWELL WHOLESALE LUMBER CO., INC.
P. O. BOX 65
WAYNESVILLE, NC 28786
(704) 926-0848

Response to Comments in Letter No. 574

From: R. W. Dezman

Comment No.

Response

-
- | | |
|---|--|
| 1 | Your preference for alternative D was included in the content analysis of all comments received. |
|---|--|

CARL H. BRADLEY
Secretary



WALLACE G. WILKINSON
Governor

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
18 REILLY ROAD
FRANKFORT, KENTUCKY 40601

February 22, 1989

Mr. Steve McCorquodale
Leader, Vegetation Management EIS Team
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

RE: Draft Environmental Impact Statement
Vegetation Management in the Appalachian Mountains

Dear Mr. McCorquodale:

After transmitting comments from various Kentucky state agencies to your office on February 8, 1989, we received an additional response from the Kentucky State Nature Preserves Commission. A copy of this response is attached.

This response would have been submitted last week but since state government was closed on Thursday and Friday of last week due to the flooding of the Kentucky River and was closed on Monday for President's Day, the Nature Preserves Commission was unable to forward the comments to us until late yesterday. Please consider these comments in preparing your final document. If you have any questions, please contact me at the letterhead address or by calling (502) 564-2150.

Sincerely,

Valerie A. Hudson

Valerie A. Hudson
Deputy Commissioner for Special Projects



RICHARD R. HANNAN
DIRECTOR



WALLACE G. WILKINSON
GOVERNOR

COMMONWEALTH OF KENTUCKY
KENTUCKY STATE NATURE PRESERVES COMMISSION
407 BROADWAY
FRANKFORT, KENTUCKY 40601
(502) 564-2889

February 21, 1989

Ms. Valerie A. Hudson
Commissioner's Office
Department for Environmental Protection
Natural Resources and Environmental
Protection Cabinet
18 Reilly Road
Frankfort, Kentucky 40601

Dear Ms. Hudson:

1 The Kentucky State Nature Preserves Commission (KSNPC) has reviewed the Draft Environmental Impact Statement for Vegetation Management in the Appalachian Mountains and prefers Alternative B over the seven other management strategies presented. We prefer this alternative because the limited number of acres treated and low intensity and frequency of treatments minimizes negative effects on the environment yet creates the opportunity for enhancing and maintaining the biological diversity of Appalachian national forests.

2 KSNPC is strongly against the aerial application of herbicides because of the potential for harming non-target species. The use of Environmental Protection Agency approved herbicides should only be considered after all other options have been exhausted and a site-specific environmental risk analysis has been completed. Undoubtedly, there will be circumstances when the use of herbicides cannot be avoided; however, these should be limited in number and extent. KSNPC strongly recommends the establishment of a minimum 100-foot buffer zone along all intermittent and perennial streams for all management activities including timber harvesting, timber stand improvement, application of herbicides, and prescribed burning. We realize that effective buffer width is dependent upon many variables and that there presently are no hard and fast rules that can be used to determine appropriate buffer width in a given situation. However, in the absence of such guidelines we suggest the use of a minimum 100-foot buffer zone. The only permissible variance from this policy should be for management activities which are necessary for the maintenance or enhancement of endangered or threatened species. In these situations, coordination with the United States Fish and Wildlife Service Endangered Species Field Office and appropriate state agencies should occur.

Response to Comments in Letter No. 525

From: Richard R. Hannan

Comment No.

Response

- 1 The commenter's preference for alternative B was included in the content analysis of all comments received. Alternative B does have some of the favorable effects listed. It also has effects considered unfavorable by other commenters. Pages II-79-83 of the Draft EIS summarizes the positive and negative effects of alternative B. More detailed summaries of impacts of each alternative begin on page IV-130 of the Draft EIS. Also see response to comments in Letter No. 261, Comment No. 2.
- 2 Potential adverse effects on non-target species is greatest when herbicides are broadcast on an area, which occurs with some ground application methods as well as aerial. These potential adverse effects are limited by mitigations covering choice of herbicides; application rates, methods, and timing; and use of buffers (Draft EIS pages II-58 to II-65). In the Final EIS, these effects have been further reduced by modifying alternative D as follows: (1) aerial application is now allowed on only 400 acres per year (0.008 percent of national forests in the Appalachians) of main power transmission lines that are rugged, remote, and inaccessible; (2) overall herbicide use has been reduced and selective application (directed to individual plants) has been increased; and (3) streamside buffers for aerial application have been widened to at least 200 horizontal feet to provide more protection in mountain terrain, and all buffers must be clearly marked so the pilot can easily see and avoid them.

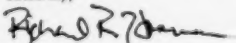
Buffer strips for timber harvest have been specified in each Forest Land and Resource Management Plan and are outside the scope of this EIS. Filter strips for prescribed fire and mechanical tools, whose width in feet must be at least 30 plus 1.5 times the percent slope, have been shown by research and monitoring to trap nearly all sediment from vegetation management activities before it reaches the stream (Draft EIS pages II-54 and II-57). Buffers for herbicide use (minimum 30 horizontal feet for ground application and 200 horizontal feet for aerial application) have been shown by research and monitoring to keep herbicide concentrations in streams below 0.050 ppm (Draft EIS pages IV-99 to IV-102). Each forest may be more restrictive than these widths, but widening them for our EIS is not justified by the facts.

V. Hudson
February 21, 1989
Page Two

Finally, the use of prescribed burning in the Appalachian Mountains is warranted if the Forest Service is to meet its challenge of maintaining the biological diversity of the lands in its charge. Evidence suggests that fire was probably not a factor in maintaining the rich mixed mesophytic hardwood stands of this region and should not be used in the management of these stands. However, the literature, stand history, and circumstantial evidence based upon past and current stand composition suggest that fire was probably a factor in determining the vegetation on upper slopes, ridge tops, and south to west facing topographic positions. It is apparent that the decline of the Red-cockaded Woodpecker in the Appalachian Mountains is in part a result of a decrease in fire frequency and resultant loss of suitable habitat. Recent cooperative biological inventories undertaken by the Forest Service, The Nature Conservancy, the Kentucky Department of Fish and Wildlife Resources, and KSNPC have documented many plant species which are now rare on the Daniel Boone National Forest. We believe that many of these species were much more common in the openings and habitats created on or maintained by periodic fires. On the Stanton and Somerset Ranger Districts of the Daniel Boone National Forest, for example, Lilium philadelphicum, was found mainly in ridge top situations along roads or paths where the forest canopy has been opened artificially by man. We suspect that fire maintained natural openings and that this and other species adapted to such conditions were probably much more common prior to fire suppression. Certainly, KSNPC is not advocating the widespread use of fire in Appalachian Mountain national forests. However, we do recognize that fire was a natural factor in the forest prior to settlement and that its use to maintain the biological diversity of our forests should be seriously considered. KSNPC recognizes that the use of fire in these forests is controversial and its historical role is somewhat speculative. We, therefore, recommend that when fire is prescribed the Forest Service should coordinate with appropriate state and federal agencies in developing and implementing the management strategy. Furthermore, a monitoring plan should be developed whereby the results of the prescription can be documented and evaluated.

Thank you for the opportunity to comment. If you have any questions or require additional information, please contact me.

Sincerely,



Richard R. Hannan
Director

RRH/mfs

p.c.: Richard Wengert
Don McCormick
Jim Aldrich
Joe Jacobs
Kathy Seaton

- 3 Please see mitigation number 1 on page II-52 of the Draft EIS which addresses this concern.



TENNESSEE WILDLIFE RESOURCES AGENCY

ELLINGTON AGRICULTURAL CENTER
P. O. BOX 40747
NASHVILLE, TENNESSEE 37204

February 17, 1989

U.S. Forest Service
Steve McCorkquodale
Vegetation Management EIS
1720 Peachtree Road, NW
Atlanta, Georgia 30367-9102

Dear Mr. McCorkquodale:

This is in regard to the Draft EIS for Vegetation Management in the Appalachian Mountains.

1 Tennessee Wildlife Resources Agency (TWRA) staff has briefly reviewed the above-mentioned document. For the most part, TWRA is supportive of the document and the preferred Alternative D.

2 We do have a couple of concerns. One is that herbicide rates used when regenerating yellow pines not be such that herbaceous vegetation and woody browse is controlled to the detriment of wildlife habitat. There is a fine line between using enough to get the pines established and not too much to degrade the wildlife habitat. The most environmental risk from the herbicides mentioned in the EIS is when they are being transported and handled in their concentrated form. This should be discussed in Introduction section of the Appendix.

TWRA has enjoyed a productive relationship with the U.S. Forest Service over the years and we want that to continue.

Thanks for the opportunity to comment.

Sincerely,

Gary T. Myers
Gary T. Myers
Executive Director

GTH:kss

The State of Tennessee

AN EQUAL OPPORTUNITY EMPLOYER

Response to Comments in Letter No. 576

From: Gary T. Myers

Comment No.

Response

- 1 Your preference for alternative D was included in the content analysis of all comments received.
- 2 We agree. Mitigation number 5 on page II-58 of the DEIS addresses the concern relative to wildlife while mitigation numbers 17-19 on pages II-62 and II-63 address transportation. Also, management requirements 1-4 on pages II-44-46 of the Draft EIS disclose requirements of site-specific analysis, biological evaluations, IPM strategies, and BMP's that focus on not manipulating vegetation more than required to meet specific objectives.

KENTUCKY UTILITIES COMPANY

ONE QUALITY STREET
LEXINGTON, KENTUCKY
40507

February 17, 1989

Comments on Alternatives Presented in the DEIS on Vegetation Management in the Appalachian Mountains:

If Alternative D becomes the preferred alternative treatment methodology, then aerial application of herbicides should still be allowed on utility (electric and gas) rights-of-way.

Herbicides and their aerial application have become very useful to utilities because of the demand for a productive, economical, effective, reliable and safe method of maintaining rights-of-way. This type of herbicide use has evolved because there is not enough manpower nor equipment to maintain the thousands of acres of utility rights-of-way annually. With aerial application and the use of herbicides, the resources needed to work these rights-of-way have been greatly reduced. Aerial application of herbicides, when performed by highly qualified and reliable professionals, provides for the safe and effective management of utility rights-of-way.

1

It seems that the DEIS presents a double standard as it pertains to the use of herbicides because the DEIS allows for the use of herbicides by manual methods, but not by aerial application. There is more chemical applied per acre by most manual methods as compared to the amount applied aerially. In addition, most of all of the aerially applied herbicide stays on the leaf surface and then translocates through the plant with very little herbicide actually reaching to the ground surface. There is also much potential for damage to endangered species by the use of mechanical equipment and there may also be as much risk for accidental pollution of streams from fuels used to operate mechanical equipment as there may be from aerial application. It seems that the ban on aerial application of herbicides has become the preferred alternative treatment methodology (as presented in the DEIS) only because there is a public perception that it is unsafe.

David Comstock
Transmission R/W Coordinator
Kentucky Utilities Company
One Quality Street
Lexington, KY 40507

Response to Comments in Letter No. 577

From: David Comstock

Comment No.

Response

-
- | | |
|---|--|
| 1 | Please review data presented in table 4-6 of the Risk Assessment (appendix A). Typical rates of herbicide application are generally higher by air than in the more target selective manual treatments. |
|---|--|

← Tear at perforation

RESPONSE FORM

We're providing this form to make it convenient for you to respond. You need not use this form though.

However you decide to respond, please help us by making specific and meaningful comments.
Have we done an adequate scientific analysis? Do the Alternatives respond to your concerns?

Comments on Scientific Analysis:

Why?

Comments on Alternatives:

- 1 I wish to vote for Plan B - selective cutting of trees and a different way of using herbicide - a more limited use -

- 2 Why?
I have experienced clear cutting - it has long range damage to the forest that is self-evident.

Other:

Why?

(use additional sheets as necessary)

To return this comment sheet, fold and staple with USDA Forest Service address  and drop in the mail  postage necessary).

Clara R. Couch (Citizen - USA)
Name First Mi Last (Organization)
Box 71 Route 2
Superior NC 28714
City State Zip Code

← Tear at perforation

Response to Comments in Letter No. 578

From: Clara Couch

Comment No.

Response

- 1 The commenter's preference for alternative B was included in the content analysis of all comments received. Alternative B does have some of the favorable effects listed. It also has effects considered unfavorable by other commenters. Pages II-76-83 of the Draft EIS summarizes the positive and negative effects of alternative B. More detailed summaries of impacts of each alternative begin on page IV-130 of the Draft EIS.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1 and 560.

- 2 The issue of clearcutting is outside the scope of this EIS. It is discussed in the Forest Land and Resource Management Plans of each National Forest. Activities that are addressed in this EIS are found on pages I-1-4 of the Draft EIS.



LAND-OF-SKY REGIONAL COUNCIL

25 HERITAGE DRIVE • ASHEVILLE NORTH CAROLINA 28809

TELEPHONE (704) 252-5151

MEMORANDUM

To: James Armstrong
 From: Jim Stokes, Director, Planning & Environmental Services
 Subject: Clearinghouse Response on Forest Service DEIS
 Date: February 23, 1989

Yesterday the Council approved the original staff recommendations on the Clearinghouse report and update, with one exception. After discussion of Verl Erick's comment and several recent newspaper articles on the subject of forest management, the Council unanimously passed the following motion:

The Council's response on Clearinghouse item #33-89 will be as follows:

1. The word "approval" will be omitted, i.e., the Council is not "approving" the DEIS;
2. The Council wishes to express concern over the short time period for review of this item (the entire review period took place in between the Council's January and February meetings, and allowed insufficient time for review by staff and CAOs).
3. The Council is aware of and wishes to acknowledge considerable community concern over the proposed vegetation management practices, as evidenced by recent news coverage; and
4. The Council acknowledges the comment submitted by Verl Erick of the Asheville Planning Department on February 20, 1989 which reads, "After review by several city staff people (we reached) consensus -- that the approach in Alt. 'E' seems to be the most environmentally sound and realistic." Even though this comment was submitted after the comment period closed, the Council wishes to submit it to the State Clearinghouse and make it part of the record.

Please submit this to Chrys Baggett, including Verl Erick's comment and the attached newspaper article.

cc: Bob Shepherd
 Verl Erick
 USDA Forest Service, Atlanta, GA

Response to Comments in Letter No. 579

From: Jim Stokoe

Comment No.

Response

- 1 Comment period for this EIS was of 80 day duration (November 28, 1988 - February 17, 1989). We received very few complaints on length of review period, and your comments were considered.
- 2 Comment noted.
- 3 The commenter's preference for alternative E was included in the content analysis of all comments received. Alternative E does have some of the favorable effects listed. It also has effects considered unfavorable by other commenters. Pages II-76-83 of the Draft EIS summarizes the positive and negative effects of alternative B. More detailed summaries of impacts of each alternative begin on page IV-130 of the Draft EIS. Also see response to comments in Letter No. 281, Comment No. 7.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 348, and 560.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

Fire has played an important historic role in the ecology of Appalachian forests. Most pine species and many hardwood species such as oaks thrived where they did because natural and human-caused fires aided their regeneration and reduced competition (Draft EIS, appendix E). Some species that are now threatened, endangered, or sensitive have declined as a result of the exclusion of fire (Draft EIS page IV-85).



LAND-OF-SKY REGIONAL COUNCIL

22 HERITAGE DRIVE • ASHEVILLE NORTH CAROLINA 28806

TELEPHONE (704) 254-8131

Regional Clearinghouse

N.C. Intergovernmental Review Process

Review and Comment Form

The Land-of-Sky Regional Council has received the attached information about a proposal which could affect your jurisdiction.

If you need more information, contact the applicant directly.

If you wish to comment on this proposed action, complete this form and return it with your comments to this office by Feb. 10, 1989. Comments received after this date cannot be included in our response to the State Clearinghouse.

If you need additional time in order to obtain more information about the application or to formulate your comments, please call James Armstrong at 254-8131 as soon as possible. An extension of the review period may be possible.

A NOTE to Reviewers - Projects with a "C" in the State Application Identifier (below) is a funding proposal review. Comments should focus on the acceptability or unacceptability of the project. Projects with an "E" in the identifier are environmental or site reviews. Comments for these projects should focus on the adequacy of the environmental document or site selection process.

If no comment is received by the above date, it will be assumed you have no comments regarding this proposal.

State Application Identifier 89-E-000-0606 Regional No. 33-89

Commenter's Name J. Emrick Title _____

Representing City of Asheville
(local government)

Address _____

Phone _____ Date Feb 10, 89

Comment (or attach): After review by several of city staff group

Conclusion - that the approach ~~is~~

that is in Alt "E" seems to be the most environ.

Sound and realistic.

SERVING REGION 8: BUNCOMBE, HENDERSON, WADSWORTH & TRANSYLVANIA COUNTIES

An Equal Opportunity Affirmative Action Employer

Prescribed fire has many uses in vegetation management. It is used for fuels treatment because it is the only method that actually reduces fuel loads and their associated wildfire hazards in yellow pine and pine-hardwood stands. It is used to improve wildlife habitat by stimulating growth of understory food plants and mimicking nature's way of providing special habitats for threatened, endangered, proposed, and sensitive species. It is used to maintain grass balds which are too steep or remote to be mowed or too small or remote to be grazed. These three activities account for almost 90 percent of all prescribed fire use on Appalachian national forests.

The remaining uses are for timber management. Prescribed fire is used in site preparation to mimic nature's way of regenerating most pine and some hardwood species. It is used in timber stand improvement to control some understory species, but mostly to control brownspot disease in young longleaf pine stands in northern Alabama.

Mitigation measures on Draft EIS pages II-52 to II-56 ensure that prescribed fires will be of low to moderate intensity to protect vegetation, soil, and water, will cause minimum air quality impacts from smoke, and will enhance the quality and variety of wildlife habitat. Mitigation number 14 on Draft EIS page II-55 has been expanded into two mitigations in the Final EIS to better protect air quality.

National forest prescribed fires account for less than 2 percent of total forest fire smoke produced in the Appalachians. They therefore have negligible effects on regional air quality, the greenhouse effect, and ozone depletion (Draft EIS pages IV-121 to IV-122).

Edward Schell
2514 Brown's Mill Rd.
Johnson City, TN 37604

USDA

Feb. 14, 1989

Forest Service
1720 Peachtree Rd. N.W.
Atlanta, Ga., 30367

Dear Sirs:

Among alternatives discussed in the Draft Environmental Impact statement for Vegetation Management, I object strongly to alternative D. Heavy reliance on herbicides can cause destruction of the wrong plants as well as the right ones. It pollutes streams and ground water, and threatens wildlife.

Alternative B presents a more careful and gentler method of control which is aimed directly at the plant species to be controlled.

We do not want chemlawn forests which foster the growth of one or a few species. We do want forests which contain a highly diverse variety of both plant and animal species.

Sincerely,
Edward Schell

Response to Comments in Letter No. 580

From: Edward Schell

Comment No.

Response

- 1 The commenter's preference for alternative E was included in the content analysis of all comments received. Alternative E does have some of the favorable effects listed. It also has effects considered unfavorable by other commenters. Pages II-76-83 of the Draft EIS summarizes the positive and negative effects of alternative E. More detailed summaries of impacts of each alternative begin on page IV-130 of the Draft EIS. Also see response to comments in Letter No. 281, Comment No. 7.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1 and 560.

In the Preferred Alternative D, adverse effects to non-target plants, ground water, and streams are minimized to acceptable levels if mitigation measures identified on pages II-44 - II-66 of the Draft EIS are applied. Three additional ones are identified in chapter II of the Final EIS.

Senter Jackson
Rt 3 Box 131A
Jonesboro, TN. 37659

To: Forest Service

Dear Sir: I oppose the use of a herbicide to manage
1 plants & trees in the National Forest. I support
low impact methods such as controlled burning and
manual clearing. The use of air borne herbicide
is asking for more cancer & birth defects in
people and animals.

Respectfully
W. Senter Jackson

Response to Comments in Letter No. 581

From: M. Senter Jackson

Comment No.

Response

- 1 Your opposition to herbicide use was included in the content analysis of all comments received. Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1 and 560.

Aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

Dear Forest Service,

I'm concerned about the use of herbicides on the Southern Appalachian National Forests. I'm opposed to the increase by 40% according to a Draft Environmental Impact Statement for Vegetation Management recently issued by the Forest Service. I understand that the Forest Service prefers alternative D which I'm opposed to, because of its excessive reliance on herbicides with their potential for polluting streams and destroying non-target plants and animals. I recommend they adopt alternative B, which reduces the number of acres treated, and which relies on low impact methods of plant control.

Thank you
Janice Marquis
Box 483 W.
Dristol Va. 24201

Response to Comments in Letter No. 582

From: Janice Marquis

Comment No.

Response

- 1 Your preference for alternative B and opposition of alternative D was included in the content analysis of all comments received. Also see response to comments in Letter No. 261, Comment No. 2.

Evidence in the EIS indicates that low risk use of selected herbicides is assured when properly controlled. The document discloses the scientific record and current knowledge about the various tools potentially usable in vegetation management. The data supports the position that the evaluated herbicides pose minimal risk as long as mitigation measures (pages II-58 to II-65 of the Draft EIS) are enforced as we require.

As a result of comments by the public and management, the Draft EIS preferred alternative D has been modified to have less herbicide use. Alternative "Modified D" reduces the overall amount of projected herbicide use, reduces the projected use of aerial application, and increases the amount of selective over broadcast application techniques proposed in alternative D. For comparison purposes, Modified D is described in detail and displayed in chapter II immediately following alternative D and in tables II-3 through II-9 of the Final EIS; its actions and effects fall within the range of those disclosed for the other alternatives in the Draft EIS. See also response to comments in Letter Nos. 1, 560, and 580.



United States Department of the Interior

OFFICE OF ENVIRONMENTAL PROJECTS
FIFTH FLOOR RUSSELL FEDERAL BUILDING, SUITE 1520
75 SPRING STREET, S.W.
ATLANTA, GEORGIA 30303



ER-88/1057

Feb 29 1984

Mr. John E. Alcock, Regional Forester
U.S. Department of Agriculture
Forest Service
1720 Peachtree Road, NW,
Atlanta, Georgia 30367

Dear Mr. Alcock:

The Department of the Interior has reviewed the Draft Environmental Statement (Statement) for the Vegetation Management in the Appalachian Mountains and offers the following comments and recommendations for your consideration.

General Comments

1 The draft Statement appears generally adequate in presenting an environmental overview of the Forest Service's forest management programs and alternatives in the Appalachian Mountains. The critical aspect affecting fish and wildlife resources involves the site-specific environmental analysis associated with each individual project. Proper and timely coordination with natural resource-oriented agencies and individuals is essential to minimize adverse environmental consequences. This coordination process should be more clearly outlined.

2 The Statement does a thorough job outlining the potential hazards and risks associated with the various alternatives for vegetation management, especially in light of the paucity of fish and wildlife toxicity data available for the proposed use of many herbicides. The generic nature of the Statement is necessary because it covers a broad scope of vegetation management activities at a number of Forest Service facilities. However, because the Statement is general, it precludes identification by the Service of the most environmentally preferred alternative at this time.

3 The Statement should discuss potential impacts of herbicides in the vicinity of the numerous solution caves and other solution openings in limestone, dolomite, and other carbonate rocks. Sheet 77 of the National Atlas of the United States of America by the U.S. Geological Survey may be useful in considering the distribution and concentration of karstic features. Mitigation techniques to reduce such impacts should also be discussed.

4 The Statement does not consider the potential for adverse or beneficial effects from the various vegetation management alternatives on Research Natural Areas, North Carolina's Registered Natural Heritage Areas and other significant habitat areas. We recommend that the final Statement address these issues and propose mitigative measures to prevent adverse effects to these areas.

Response to Comments in Letter No. 583

From: James H. Lee

Comment No.

Response

- 1 We believe mitigation number 2 on Draft EIS pages II-44-45 clearly spells out this coordination process.
- 2 We have identified alternative B as the environmentally preferable alternative.
- 3 Mitigation number 29 on Draft EIS page II-64 covers this concern; in the Final EIS, "karst areas" has been changed to "sinkholes" since sinkholes and fissures (included in "rock outcrop") are the entry points to karst hydrology systems. Section IV.G (Water and Aquatic Life) has been strengthened in the Final EIS to more directly disclose effects on ground water in karst areas.
- 4 This document addresses vegetation management of those activities outlined on page I-2 of the Draft EIS. Vegetation management in research natural areas is so unique that it would be more appropriately addressed by site-specific analysis. When vegetation management has potential for affecting an adjacent RNA, these effects and mitigations are covered by site-specific analysis at the proposed project.

5 The sections of the document which discuss the consultation process between the Forest Service and the Fish and Wildlife Service (Service), as defined under Section 7 of the Endangered Species Act of 1973, as amended, should include provisions for analysis of impacts to designated Critical Habitat and consultation with the Service if analysis shows that an activity may affect designated Critical Habitat. Additionally, the Forest Service should confer with the Service for any activity that may adversely affect the continued existence of a proposed species or result in the destruction or adverse modification of proposed Critical Habitat.

6 The Service agrees that the most effective method of determining potential impacts from site specific activities is to conduct individual site assessments. We suggest that those individual site assessments for vegetation management activities which include herbicide use also include consideration of pesticide/herbicides used on nearby private and public lands and their cumulative effects. In addition, provision should be made to require an update of the list of endangered, threatened, proposed, candidate and sensitive species which may occur within the impact area of the proposed activity during preparation of an individual site assessment. Finally, the Service requests the opportunity to review and comment on any site-specific analysis prior to implementation of vegetation management activities on Appalachian Mountains National Forests.

7 The Statement describes the best available information concerning toxicity of herbicides proposed for use on the Appalachian Mountains National Forests. However, it does not describe concisely how this information will be used in the decision-making process to select an appropriate herbicide not only for the target vegetation but for the site characteristics and surrounding non-target vegetation. A separate chapter or section should be created in the final statement that describes: 1) the various uses for each herbicide; 2) situations in which each herbicide will be used, including restriction on use, i.e., degree of slope restrictions; and 3) the proposed rationale for these decisions. These discussions should include reasons why herbicides such as 2,4-D, 2,4-DP and Iobuthiuron, which were evaluated to be moderately toxic to wildlife, are selected for use over the less toxic herbicides available.

8 The Statement does not address potential impacts of herbicide application to rare terrestrial and subterranean invertebrates. Certain insects in particular could be adversely impacted, directly or indirectly, by herbicides. For example, many Lepidoptera, which are dependent on one or a few specific host plants, could be eliminated if their host plant populations are reduced or destroyed. Sensitive cave invertebrates could be adversely impacted by pollution of groundwater. These concerns should be mentioned in the Statement and in the future, as more specific location information becomes available. Protection of susceptible terrestrial and cave invertebrates should be incorporated into the project-by-project biological evaluation process.

9 Buffer areas excluding use of certain herbicides around endangered bat habitat (300 feet aerial, 80 feet ground application) appear adequate, especially since these animals are nocturnal and presumably all spraying

- 5 We believe mitigation number 2 on Draft EIS pages II-44-45 covers this concern.
- 6 Mitigations on Draft EIS pages II-44 and II-58 require complete analysis of all (including cumulative) effects. Updates of species lists and FWS reviews are provided under existing authorities and guidelines.
- 7 Herbicide uses are discussed in sections II.D.4 and IV.C. Restrictions on herbicide use and constraints on use of class B and C herbicides appear in section II.E.2.c (see Final EIS version).
- 8 Section IV.G (Water and Aquatic Life) has been strengthened in the Final EIS to directly disclose effects on aquatic biota in karst systems. Sections IV.F.3 and IV.G.1 show that mitigations will prevent adverse herbicide impacts on terrestrial and aquatic invertebrates.
- 9 These buffers are consistent with EPA and FWS restrictions for certain herbicides. Our analysis shows that they are more than wide enough to provide full protection (section IV.G.1; appendix A, page 4-21).

will be done during the day. However, this buffer may not be adequate to protect sensitive plants, all of which, as stated, are potentially vulnerable to all herbicides. We recommend an increased buffer area of 100 feet for ground application and 500 feet for aerial application around known populations of endangered, threatened, or other sensitive plants.

Specific Comments

- 10 Vol. I, p. II-31 The horses in the photo are mistakenly identified as cattle.

- 11 Page II-47 We agree that establishment of vegetated buffers is extremely important to protect water quality and channel stability of perennial and intermittent streams. However, we do not understand the rationale behind the establishment of a minimum 5-foot vegetated buffer adjacent to these streams, especially in the Appalachian region, where steep slopes increase the potential for erosion and entry of herbicides into adjacent surface waters. We recommend that the final document include a much wider buffer.

- 12 Page II-60 We are pleased that the Forest Service is willing to restrict broadcast application of kerosene and diesel fuel during vegetation management activities within a 300-foot (aerial application)/60-foot (ground application) radius of the habitat of any threatened, endangered, proposed or sensitive bird species during the nesting season. We recommend that these restrictions also should be applied to Federal candidate species. Additionally, we recommend that Appendix D's chemical charts delineating potential significant risks to any of these species be revised to include kerosene and diesel fuel as potential risks to avian species.

- 13 Data provided in the Statement demonstrates that ingestion of diesel fuel by the breeding females of avian species inhibits productivity; however, the data do not indicate a time constraint with regard to time-of-year of fuel ingestion versus degree of impact to reproduction. Therefore, we believe that use of kerosene and diesel fuel should be restricted as above, 1) throughout the year for federally listed, proposed and candidate species and designated sensitive species; and 2) during the nesting season of all other avian species within the area to be treated.

- 14 The assessment of the various herbicides' toxicity uses avian toxicity data when assessing potential impacts to reptiles when reptile toxicity data is unavailable. Because these groups are similar, we are comfortable with these comparisons until more specific information becomes available. Because of this similarity and the unavailability of group specific data, the Statement should consider the possibility that broadcast application of these two chemicals may also impact reproduction and egg viability in reptiles.

- 15 Page II-64 This section dictates, and page 2-13, #13 reiterates, that herbicides will not be applied within 30 horizontal feet from waterways and other wetlands, and when ground-applied or within 100 feet when aerially-applied. However, page IV-99 and IV-101 state that surface waters may

10 This is an interesting typesetting error which has been corrected in the Final EIS.

11 This 5-foot buffer is required in addition to the much wider filter strips for prescribed fire and mechanical tools and buffers for herbicide use (Draft EIS pages II-54, II-57, and II-64).

12 Federal candidate species are normally classified as sensitive by the Forest Service. Wording has been added to appendix D consistent with mitigating measure 9 on page II-60 of the Draft EIS. The tables in appendix D have also been changed.

13 Although there may be some reduction in nesting success if diesel oil or kerosene are applied by broadcast methods to the habitat of nesting birds, this is not significant at the population level for species not classified as threatened, endangered, or sensitive.

With a half life of six days (table 4-9 in Risk Assessment), ingestion of even trace amounts of diesel oil are highly unlikely to affect reproduction except when applied during nesting season. Even in the case of threatened or endangered species, mitigation measure number 9 on page II-60 of the Draft EIS is adequate to protect reproduction.

14 This may be true for reptiles, however, their eggs are buried in the soil and thus protected from direct broadcast application. In the Final EIS, broadcast application is available in the general forest only for pine site preparation and timber stand improvement 10 percent of the time. All other treatments are selective.

15 Mitigation number 25 (page II-63, Draft EIS) specifically addresses this concern. In the Final EIS, risk of accidental direct application to streams is minute, since aerial application of herbicides is proposed only for utility rights-of-way that are in uninhabited areas and in remote, rugged terrain where other methods are not practical to use. In the Final EIS, the annual acres available for treatment have been reduced to 400 and buffers for stream, road, and trail crossings have been increased to 200 horizontal feet (herbicide mitigation measure number 18 in chapter II of the Final EIS).

receive direct application of herbicides when streams are unavoidably overflowed during aerial application. This is most likely to occur during aerial application to utility and gas line rights-of-way when flight paths directly cross streams. In these instances, the Service recommends that, the flight path be altered to avoid herbicide application to surface waters. If not possible, then necessary herbicides should be ground-applied.

Page II-69 It is stated that the same distance restrictions (60: 300 feet) will be applied for use of certain herbicides around known habitat of susceptible birds and mammals. Yet no similar restrictions are presented for rare aquatic species. Because in many cases available information is insufficient to evaluate effects of herbicides (particularly chronic effects), we recommend employing the same area restrictions (i.e., 300 feet aerial, 60 feet ground) for herbicide spraying around known habitat for all endangered, threatened, proposed, and sensitive mussels and fish.

Page IV - 83 Last paragraph, where effect of herbicides on bats is discussed, gray bat should be included with Virginia big-eared and Indiana bats.

Table 3-1, Vol. II The classification system used in the document to assess risk to humans from herbicide concentrations based upon rat LD 50's is also used to assess risks to wildlife groups, i.e., mammals and birds. This system is considerably more liberal than that used by the Service. For example: a chemical with an LD 50 for mammalian wildlife between 50 and 500 is considered moderately toxic when using the document's chart, while the Service would consider the chemical as highly toxic to mammalian wildlife. We suggest that specific tables be developed to develop toxicity ratings of chemicals for specific aquatic and wildlife groups, i.e., aquatic, avian and mammalian.

Page 8-4, Vol. II The Service is concerned over the potential loss of local populations of small mammals, and birds, terrestrial amphibians and reptiles in large treated areas, as pointed out in the statement, especially with regard to federally-listed, proposed and candidate species and sensitive species. Due to this potential loss and the paucity of acute, chronic and cumulative toxicity information for the majority of chemical herbicides, the Service recommends that the 300-foot/60-foot buffer restriction be applied during application of all pesticides within habitats of listed, proposed, candidate and sensitive species.

Table D-2, Vol. II Table D-1 omitted the following threatened (T), endangered (E), and proposed threatened (PT) and endangered (PE) plant species known to occur or which may occur within Forest Service facilities in North Carolina's Appalachian Mountains.

Heller's blazing star
Mountain sweet pitcher plant
Swamp pink
Green pitcher plant

Liatris helleri - T
Sarracenia cyprip. sp. *sonesii* - PE
Heliconia bullata - T
Sarracenia bullata - E

16 These distance restrictions are required where the Risk Assessment indicated that a threatened, endangered, proposed, or sensitive terrestrial species might receive a dose greater than 1/10 LD₅₀ (the level of significant risk). Modeling in the Risk Assessment does not indicate that any aquatic species would receive a dose greater than 1/20 LD₅₀ (level of significant risk) with normal distance restrictions required by mitigation number 30 (Draft EIS page II-64) except in the case of an accidental spill. Requirements in chapter II concerning transportation, handling, and storage of herbicides mitigate these risks.

17 Correction has been made in the Final EIS.

18 While the verbal categorization "moderately toxic" would change based on commenter's system, the LD₅₀ and the conclusions drawn within the document would not. Actual LD₅₀'s are presented for a wide variety of animals in tabular form in section 6 of the Risk Assessment. While many of these data are based on surrogate species, the actual data for LD₅₀ (not the verbal categorization of that number) was used when evaluating projected doses for "acceptability" of risk.

19 The Risk Assessment (appendix A) details the exhaustive analysis process used to determine risk of toxic effects to wildlife. Even though a very conservative approach was used throughout the analysis to deliberately overestimate potential adverse effects, few of the herbicides were predicted to pose a significant toxic risk to animals. Distance standards for protection in those instances where risk may be significant (as with threatened, endangered, proposed and sensitive plants) are in accordance with standards established by EPA and FWS. Herbicide treatments within habitats for threatened, endangered, proposed, and sensitive species must be 100% selective (applied directly to individual target plants), which reduces potential risk to these species to a minimal level (Final EIS page II-11).

20 Liatris helleri and Helonias bullata have been listed in tables D-3 and F-2.

Sarracenia rubra spp. jonesii and Sarracenia bullata were not listed because they are not confirmed to occur on national forest lands.

Dwarf-flowered heartleaf

Hexastylis naniflora - PT

These species, along with those in Table D-1, should be considered in this assessment of impacts from the proposed vegetation management alternatives. In addition, site specific analysis of impacts to federally-protected species should include consideration of these species.

21

Page D-7, Vol. II It is stated that manual methods should not be used to improve habitat of several plant species, including *Iliamna gorgi*. In certain cases, eg., for control of competing invasive vegetation, manual methods carefully employed could benefit this species.

22

Page D-14, Vol. II Table D-2 should include the Roanoke logperch, which has been proposed as endangered. This species could then be eliminated from Table D-4.

23

Page D-15, Vol. II Table D-3 should have two plant species added to it: *Heliconia bullata* which has recently been listed as threatened, and *Arabis serotina*, which has recently been proposed as endangered. These plants could then be eliminated from Table D-6.

24

Vol. II, Appendix F, Table F-2
The list of threatened and endangered plants is incomplete. The following plants have been listed, or are proposed to listed, by the U.S. Fish and Wildlife Service. Their occurrence, and their susceptibility to project-related impacts should be in the final statement.

GEORGIA - CHATTAHOOCHEE NATIONAL FOREST

Large-Flowered Skullcap (*Scutellaria montana*) - Endangered

Habitat: Dry to slightly moist rocky slopes under a canopy of mature hardwoods. Soils are generally stony, shady or cherty silt loam or silty clay loam with a pH of 4.5 to 6.3. The mature, undisturbed hardwood stands this species requires are quite limited and extremely susceptible to timbering.

Green Pitcher Plant (*Sarracenia oreophila*) - Endangered

Habitat: Found on poorly drained, acidic soils in flat mixed oak or pine woods, or in bogs and/or springheads with steep slopes. Fire is necessary to reduce competition and to create proper soil conditions for seed germination. Intensive management using herbicides could eliminate the species in treated areas.

Persistent Trillium (*Trillium perstans*) - Endangered

Habitat: Acidic soils on mesic slopes of gorges and steep ravines that support a well developed overstory. The species is most threatened by overstory destruction and mechanical disturbance.

- 21 This paragraph has been rewritten.
- 22 Added Roanoke logperch to appropriate tables D-1 and F-1 and deleted other entries.
- 23 Added Helonias bullata and Arabis serotina to tables D-3 and F-2.
- 24 Added Scutellaria montana, Sarracenia oreophila, Trillium persistens, and Helonias bullata to tables D-3 and F-2. Sarracenia rubra spp. jonesii and Haxastylis maniflora were not listed because they are not confirmed to occur on national forest land.

Sweet Pitcherplant (*Sarracenia rydbergii* sp. *longii*) - Endangered

Habitat: Endemic to a few mountain bogs and streams along the Blue Ridge Divide. The continued existence of this species is threatened by drainage, impoundment, natural succession, grazing and residential and recreational development.

Swamp Pink (*Helonias bullata*) - Threatened

Habitat: Scattered freshwater wetlands, seepage or spring swamps, upland bogs, and floodplains of small streams. Threatened due to loss or alteration of wetland habitats.

Dwarf-flowered Heartleaf (*Hexastylis naniflora*) - Proposed Threatened

Habitat: Acidic sandy loam on steep north-facing slopes of ravines in the Piedmont area, usually in the oak-hickory-pine community. Susceptible to mechanical and erosional damage associated with clear cutting and grazing.

Table F-3

25

The list of Forest Service designated sensitive species contains the following species that are Federally listed:

Blackside dace - *Phoxinus phoxinus* (T)
 Pink mucket mussel - *Lampsilis orbiculata* (E)
 Little-winged mussel - *Pegias fabula* (E)
 Rough pigtoe mussel - *Pleurobema pterum* (E)
 Cumberland monkeyface mussel - *Quadrula intermedia* (E)
 Cumberland bean mussel - *Villosa trabalis* (E)
 Cumberland sandwort - *Argemone cumberlandensis* (E)
 Mountain golden heather - *Hudsonia montana* (E)
 Heller's blazingstar - *Liatris helleri* (E)
 Green pitcher plant - *Sarracenia gracilis* (E)
 Large-flowered skullcap - *Scutellaria montana* (E)
 White-haired goldenrod - *Solidago albopilosa* (E)
 Blue Ridge goldenrod - *Solidago spithamea* (T)

These species should be included on the list of federally listed species in the final impact statement. The sensitive species list also contains a plant species called "purple lilliput" (*Toxolasma lividus*). This species is not a plant, but a freshwater mussel and should be placed with the other aquatic invertebrates.

Several minor typographic errors were noted as follows:

26

- a.) p. III - 5, paragraph 5, line 4: "e" was omitted from "limestone."
- b.) p. III - 7, paragraph 3, line 2: Christean should be Christmas.

25 Listed all species in tables D-1, D-3, F-1, and F-2 and deleted from all other tables.

26 Corrections have been made in the Final EIS.

Keen's myotis has not been confirmed on the Jefferson NF.

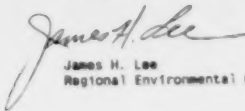
- c.) Figure IV - 3, p. IV - 112: Designation for southern Florida as C-3-d is incorrect.
- d.) pp. D - 8 and D - 9 - Figures on each page should be exchanged, i.e., the half of the figure on p. D - 8 should be figure D - 1 continued. Otherwise, this is an excellent and informative figure.
- e.) Table F - 1 (p. F - 1):
 - 1.) The subspecific name of the eastern cougar is Cougar.
 - 2.) The generic name of the flying squirrels is Glaucoms.
 - 3.) Virginia big-eared bat genus is Plecotus.
- f.) Table F - 3 (p. F - 5):
 - 1.) For loggerhead shrike, specific name is Ludovicianus.
 - 2.) Regal fritillary specific name is Idalia; this butterfly frequents more open situation, such as meadows and bogs.
 - 3.) Keen's myotis could also occur on the George Washington and the Jefferson.
 - 4.) Myotis leibii could also occur on the Jefferson.

Summary. The Department believes that the Statement outlines thoroughly the potential risks from the various vegetation management methods. However, there are a number of weaknesses in the section concerning federally listed species, or proposed for Federal listing. Because of the general nature of the Statement, the Service does not believe there is sufficient information on specific projects and/or potential impacts with which to conduct consultation, as defined under Section 7 of the Endangered Species Act of 1973, as amended. Site-specific evaluation, as outlined in the subject Statement, will determine the need for Section 7 consultation.

The Service concurs enthusiastically with your goal of achieving recovery for endangered, threatened proposed and sensitive species; this will help to ensure that these rare species continue as components of our native southeastern forests. Your requirement to collect population inventory information where necessary for specific projects will further this recovery effort. The Service comments here are general, since they will also be reviewing site-specific biological evaluations for individual projects.

Finally, because of the general nature of the Statement, it precludes identification by the Department of the most environmentally preferred alternative at this time.

Sincerely yours,



James H. Lee
Regional Environmental Officer



